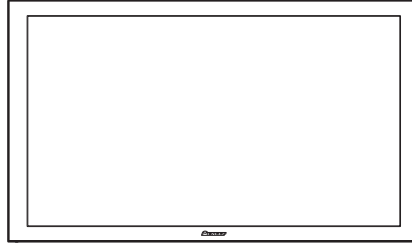


Service Manual



PDP-5016HD

ORDER NO.
ARP3404

PLASMA DISPLAY

PDP-5016HD PDP-4216HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-5016HD	KUCXC	AC 120 V	
PDP-4216HD	KUCXC	AC 120 V	



For details, refer to "Important Check Points for good servicing".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.

6. Perform the following precautions against unwanted radiation and rise in internal temperature.

- Always return the internal wiring to the original styling.
 - Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
- When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
 - Make sure that the panel vent does not break. (Check that the cover is attached.)
 - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
- When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
 - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.

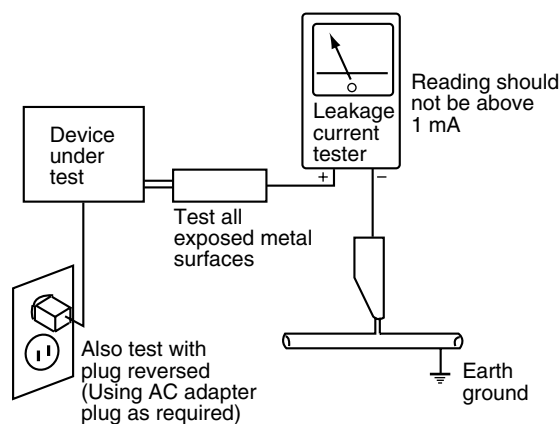
The below 4MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

A ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

- B
1. Power Cord
 2. SUB EMI Filter Assy
 3. SUB Power Switch (S1) Assy
 4. Fuse (In the POWER SUPPLY Unit)
 5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
 6. Other primary side of the POWER SUPPLY Unit

• PDP-5016HD

- C
- : Part is Charged Section.
 □ : Part is the High Voltage Generating Points other than the Charged Section.

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT	(205 V)
50 X MAIN DRIVE Assy.....	(-180 V to 205 V)
50 X SUB DRIVE Assy.....	(-180 V to 205 V)
50 Y MAIN DRIVE Assy.....	(500 V)
50 Y SUB DRIVE Assy.....	(350 V)
50 SCAN A Assy.....	(500 V)
50 SCAN B Assy.....	(500 V)

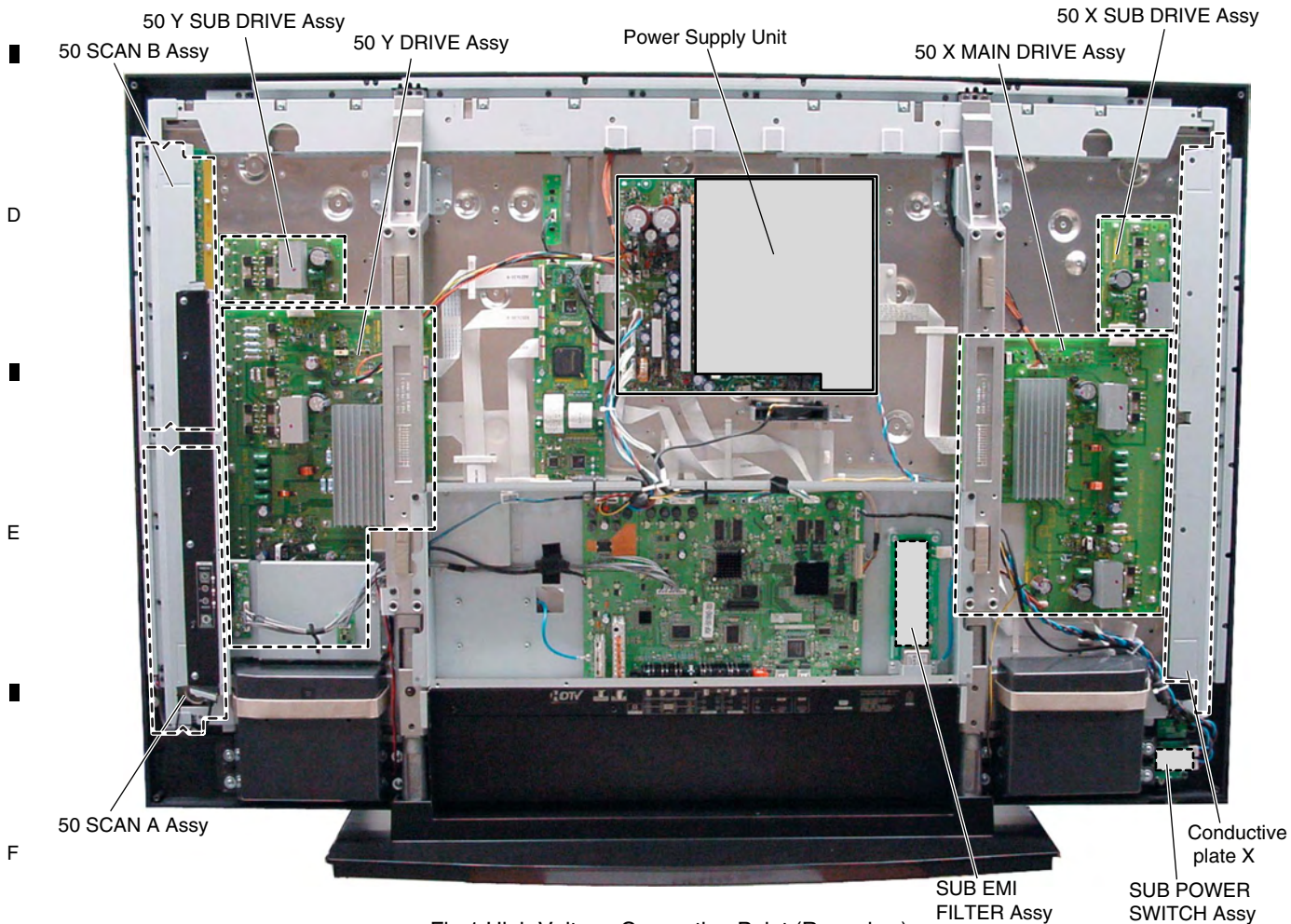


Fig.1 High Voltage Generating Point (Rear view)

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. SUB EMI Filter Assy
3. SUB Power Switch (S1) Assy
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer
(In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

• PDP-4216HD

▭ : Part is Charged Section.

▭ : Part is the High Voltage Generating Points other than the Charged Section.

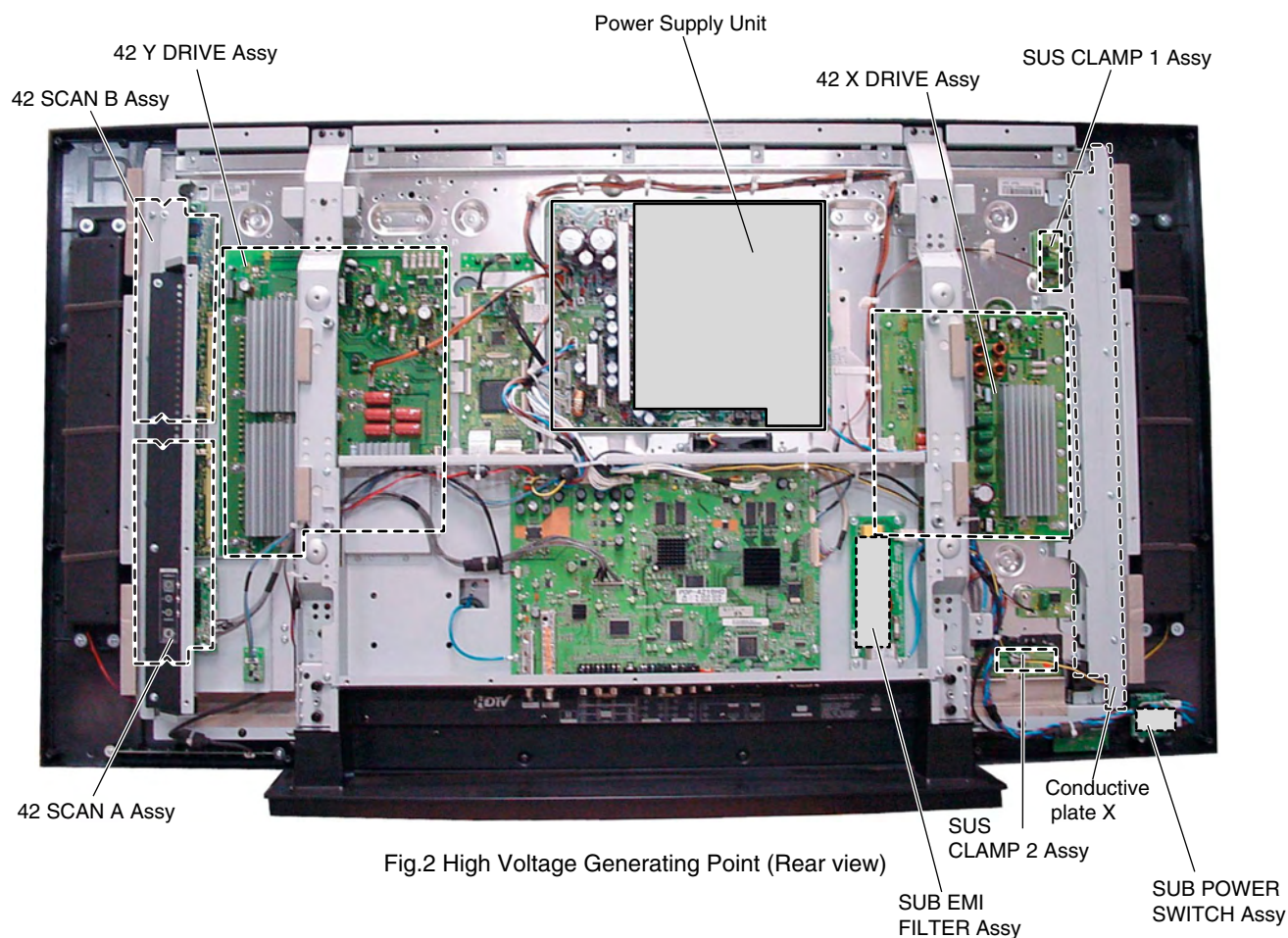
■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT	(205 V)
42 X DRIVE Assy.....	(500 V)
42 Y DRIVE Assy.....	(500 V)
42 SCAN A Assy.....	(500 V)
42 SCAN B Assy.....	(500 V)
SUS CLAMP 1 Assy.....	(-180 V to 205 V)
SUS CLAMP 2 Assy.....	(-180 V to 205 V)



[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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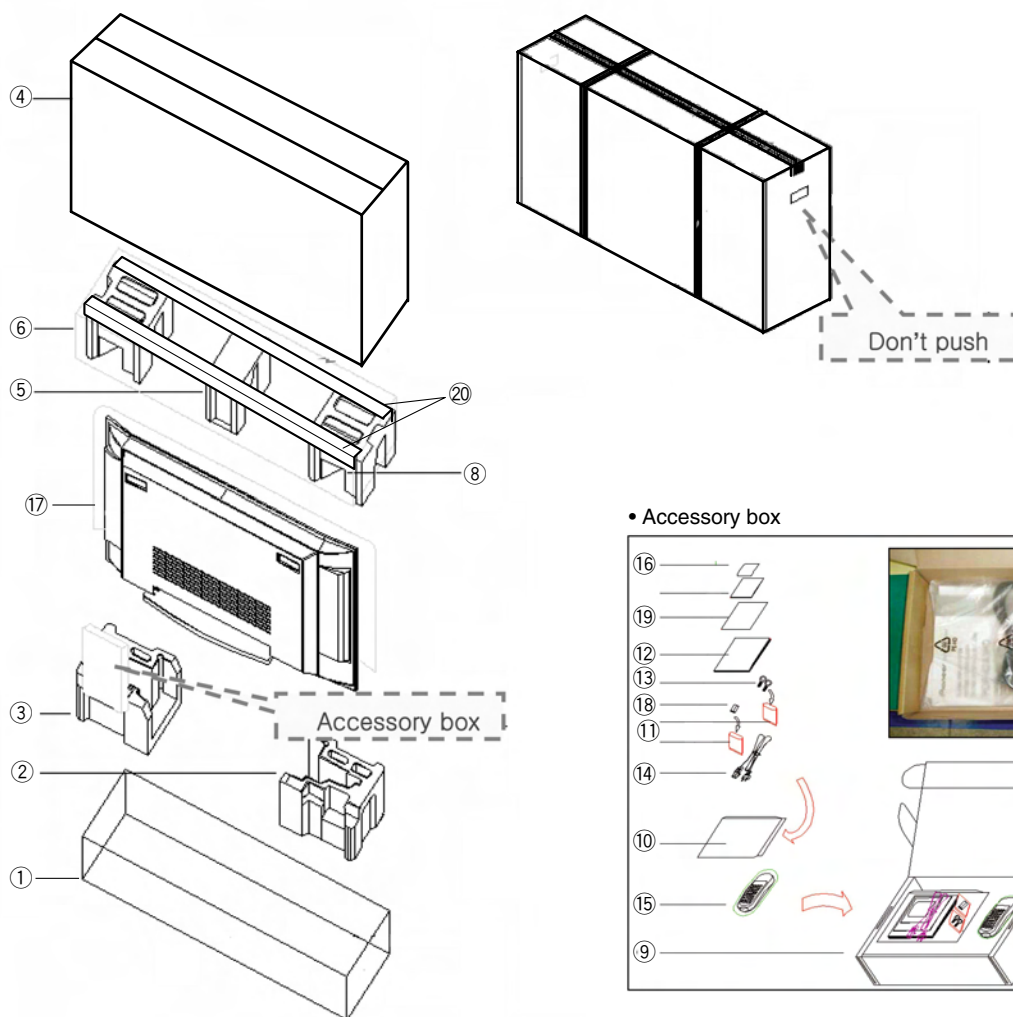
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1. EXPLODED VIEWS AND PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
●The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
●Screws adjacent to ▼ mark on product are used for disassembly.
●For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

1.1 PDP-5016HD

1.1.1 PACKING SECTION

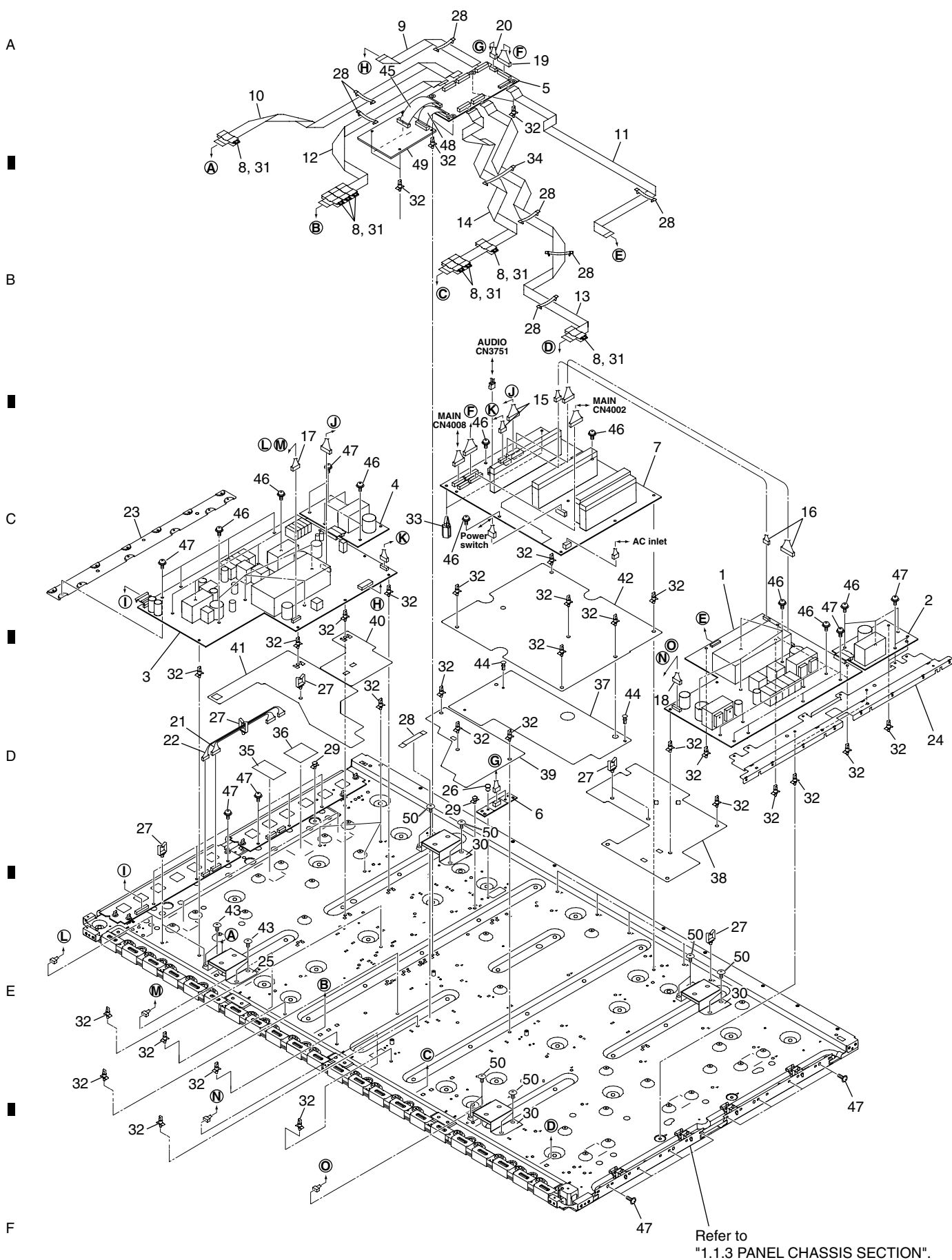


(2) PACING PARTS LIST

Mark No.	Description	Part No.
1	Gift Box-Bottom	30701-16-001
2	Cushion Bottom-Left	30711-12-004
3	Cushion Bottom-Right	30711-12-005
4	Gift Box-Top	30701-15-001
5	Cushion Top-Center	30711-12-003
6	Cushion Top-Right	30711-12-002
7	•••••	
8	Cushion Top-Left	30711-12-001
9	Accessory Box	30751-04-000
10	Bag Vinyl B (260 x 360 x0.03)	10711-01-002

Mark No.	Description	Part No.
11	Bag Vinyl Zipper	10711-02-002
12	Operating Instructions	20010-1320
13	Stay Bolt (Steel, M8x12)	30191-02-001
⚠ 14	Power Cord	01300-0390
15	Remote Control unit	01400-0850
16	Wiping Cloth	AED1285
17	Packing Sheet	AHG1352
NSP 18	Battery	•••••
NSP 19	Warranty Card	•••••
NSP 20	Paper Angle	30740-03-002

1.1.2 CHASSIS SECTION



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	50 X MAIN DRIVE Assy	AWW1143	50	Screw	ABA1355
2	50 X SUB DRIVE Assy	AWW1144			
3	50 Y MAIN DRIVE Assy	AWW1145			
4	50 Y SUB DRIVE Assy	AWW1146			
5	50 DIGITAL Assy	AWW1139			
6	SENSOR Assy	AWW1140			
7	POWER SUPPLY Unit	AXY1153			
8	Ferrite Core	ATX1048			
9	Flexible Cable (J1201)	ADD1435			
10	Flexible Cable (J1202)	ADD1436			
11	Flexible Cable (J1203)	ADD1440			
12	Flexible Cable (J1205)	ADD1463			
13	Flexible Cable (J1208)	ADD1473			
14	Flexible Cable (J1207)	ADD1466			
15	9P&6/5P Housing Wire (J1213)	ADX3386			
16	8P&5P Housing Wire (J1214)	ADX3418			
17	8P/4P Housing Wire (J1215)	ADX3419			
18	8P/4P Housing Wire (J1216)	ADX3420			
19	14P Housing Wire (J1211)	ADX3354			
20	5P Housing Wire (J1212)	ADX3359			
21	10P Housing Wire (J1209)	ADX3300			
22	4P Housing Wire (J1210)	ADX3346			
23	Conductive Plate Y	ANG2902			
24	Conductive Plate X	ANG2905			
25	Mount Bracket	ANG3020			
26	Nyron Rivet	AEC1671			
27	Wire Saddle	AEC1745			
28	Flat Clamp	AEC1879			
29	PCB Support	AEC1938			
30	Mount Bracket	ANG2813			
31	Ferrite Clamp	AEC1986			
32	Re-use PCB Spacer	AEC2087			
33	Tapping Card Spacer	AEC2103			
34	Flat Clamp 60	AEC2104			
35	Drive Silicone Sheet B	AEH1109			
36	Drive Silicone Sheet C	AEH1110			
37	Power Supply Sheet B (507)	AMR3555			
38	Address Sheet A	AMR3615			
39	Address Sheet B	AMR3629			
40	Address Sheet C	AMR3630			
41	Address Sheet D	AMR3631			
42	Power Supply Sheet (507)	AMR3634			
43	Screw	ABA1362			
44	Rivet A	BEC1158			
45	Flexible Cable (J1204)	ADD1448			
46	Screw	ABA1313			
47	Screw	ABA1364			
48	Flexible Cable (J1205)	ADD1449			
49	INTERFACE ASSY	AWV2373			

1.1.3 PANEL CHASSIS SECTION

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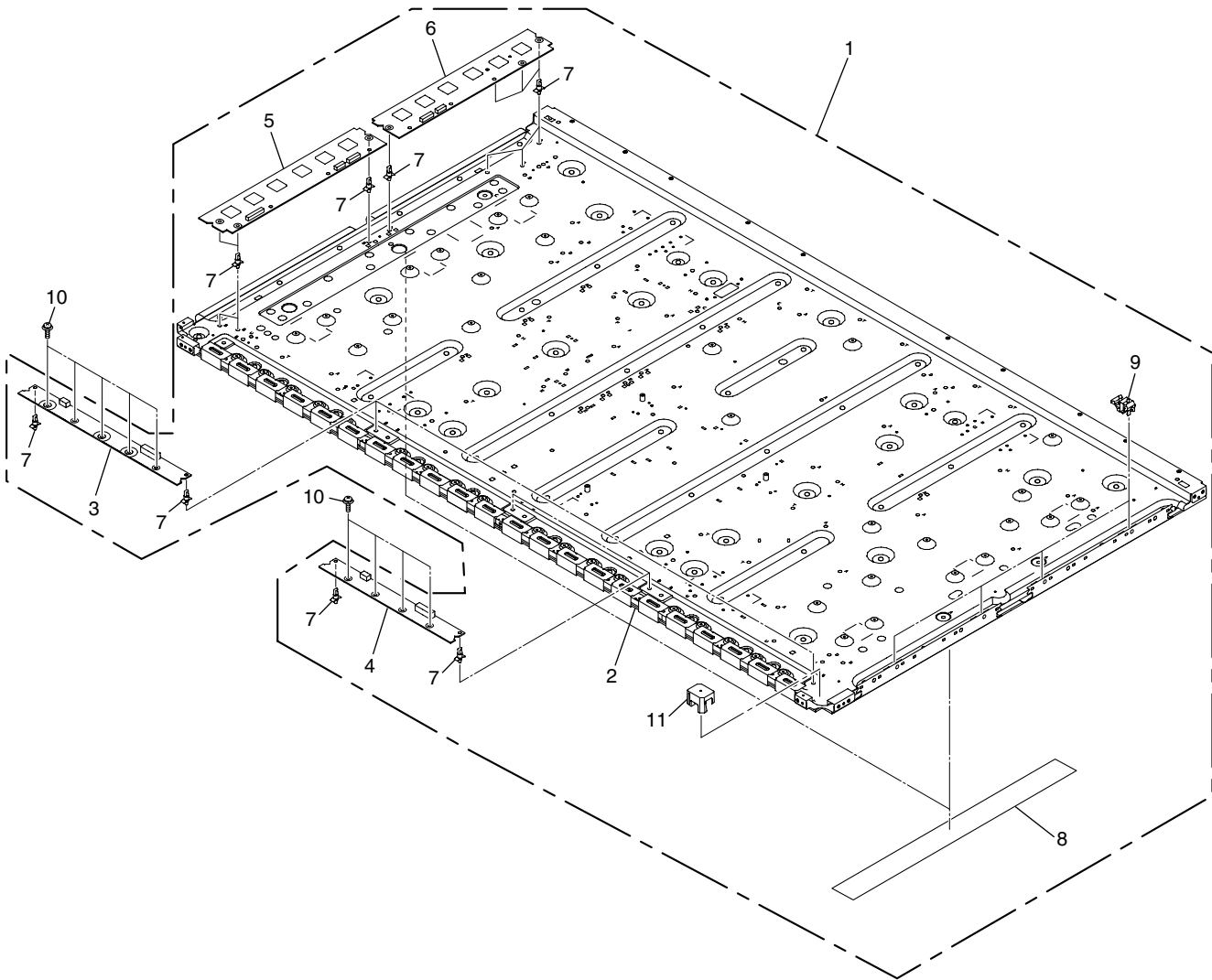
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PANEL CHASSIS SECTION PARTS LIST							
Mark No.	Description		Part No.				
NSP 1	Panel Chassis (507) Assy		AWU1148				
NSP 2	Plasma Panel (50DC) Assy		AWU1162				
NSP 3	50 ADDRESS L Assy		AWW1141				
NSP 4	50 ADDRESS S Assy		AWW1142				
NSP 5	50 SCAN A Assy		AWW1147				
NSP 6	50 SCAN B Assy		AWW1148				
7	Re-use PCB Spacer		AEC2088				
NSP 8	Adhesive Tape (50)		AEH1119				
9	Conductive Plate Holder		AMR3446				
10	Screw		ABA1351				
NSP 11	Tube Cover		AMR3445				

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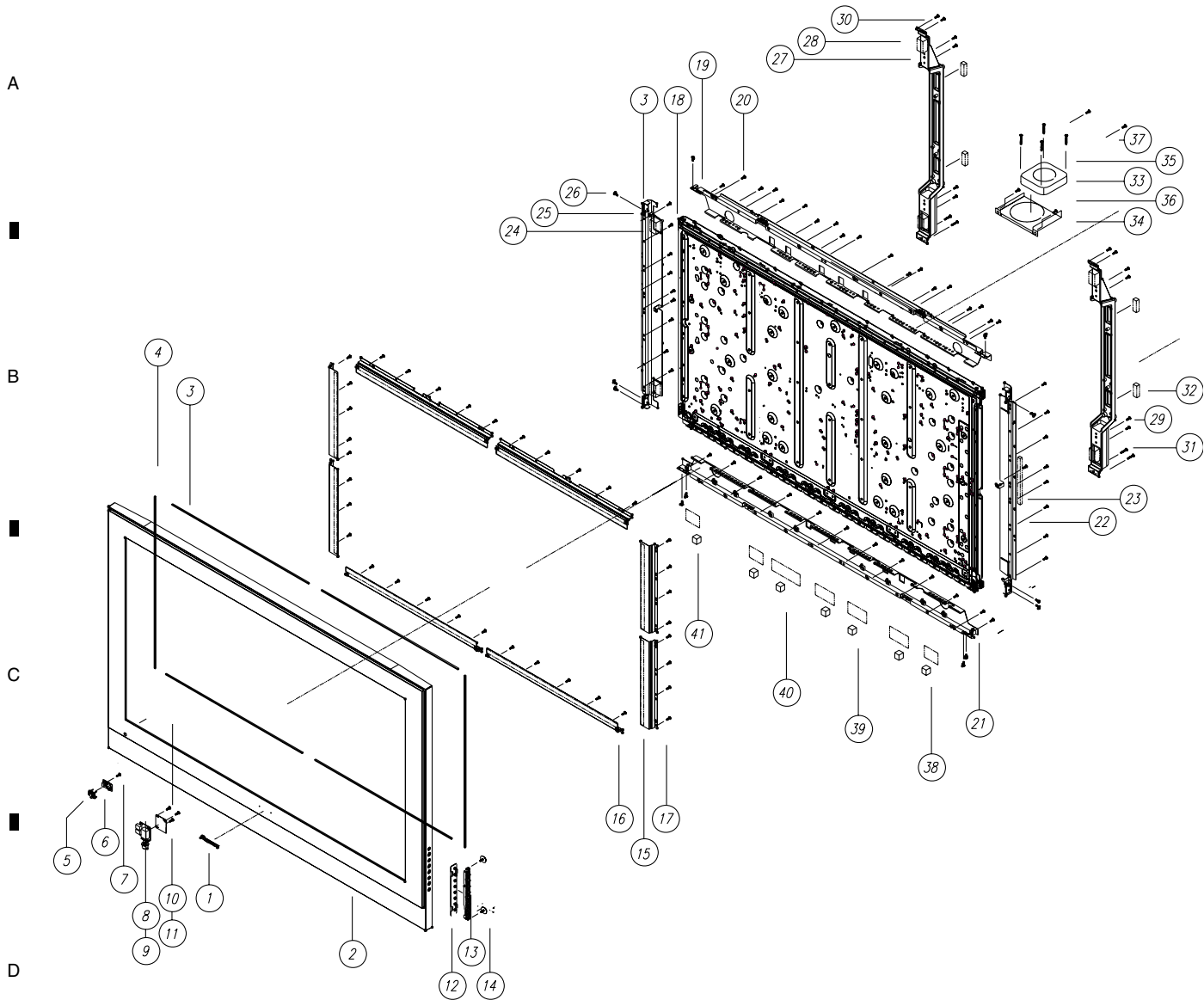
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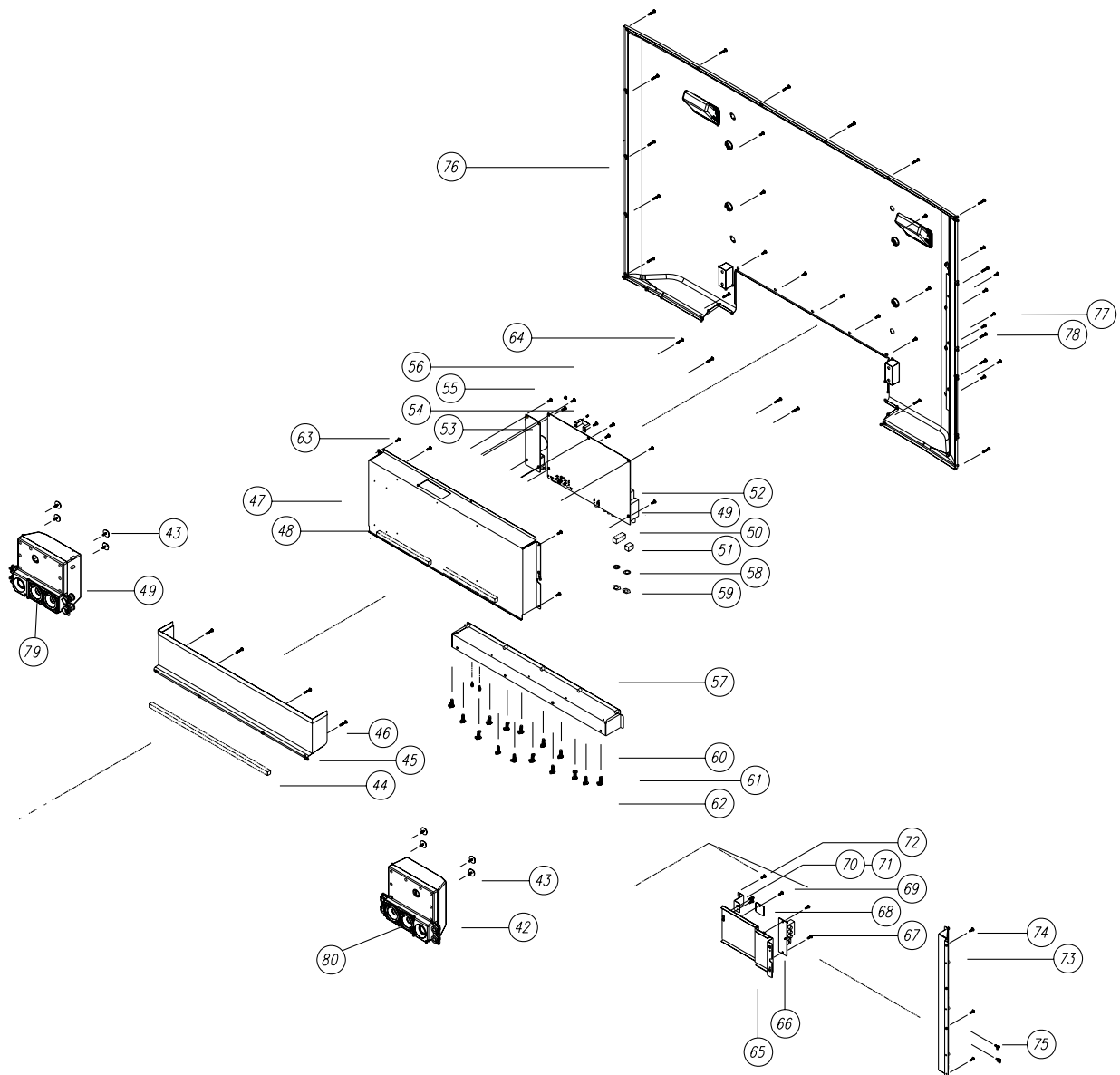
1.1.4 EXTERIOR SECTION (1/3)



(1) EXTERIOR SECTION (1/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Pioneer Badge	AAM1113	22	Brkt Module Ver L	30163-05-001
2	A'ssy Cabinet Front	01421-0420	23	Emi Gasket 15 X 16 X 260	02900-0340
3	Cushion M-Hor	30331-04-001	24	Brkt Module Ver R	30163-06-001
4	Cushion M-Ver	30331-05-001	25	Emi Gasket 26 X 26 X 40	02900-0310
5	A'ssy Window LED	01421-0490			
6	SUB IR&LED Assy	220-2208	26	Screw T3 x 8	M1318300815
7	Screw T3 x 8	M1305300817	27	Brkt V-Supporter	30161-04-001
8	SUB POWER SWITCH Assy	150-2070	28	EMI Gasket 26 X 26 X 40	02900-0310
9	Knob Power	30251-08-001	29	Screw M4 x 12	M1040401217
10	Insulation Sheet-Power	30321-08-001	30	Screw M4 x 10	M1300411017
11	Screw T3 x 8	M1305300817	31	Screw T4 x 16	M1305401617
12	Knob Control	30252-13-001	32	EMI Gasket 13 X 15 X 51	02900-0230
13	SUB KEY Assy	220-2206	33	Fan D08R-12TL 24B	10511-10-001
14	Screw T3 x 12	M1308301215	34	Brkt Fan	30172-03-001
15	A'ssy Brkt Filter Ver	01421-0400	35	Screw M4x20	M1040402017
16	A'ssy Brkt Filter Hor	01421-0410	36	Screw T3 x 8	M1318300815
17	Screw M4 x 10	M1300411017	37	Screw M4X 6	M1033400615
NSP 18	PDP Chassis Assy	AWU1148	38	EMI Tape 25 X 40	02900-0390
19	Brkt Module Hor Top	01421-0450	39	EMI Tape 25 X 80	02900-0400
20	Screw M4x 8	M1040400815	40	EMI Tape 25 X100	02900-0410
21	Brkt Module Hor Bot	30164-07-001	41	Cushion Module	30331-06-001

1.1.5 EXTERIOR SECTION (2/3)

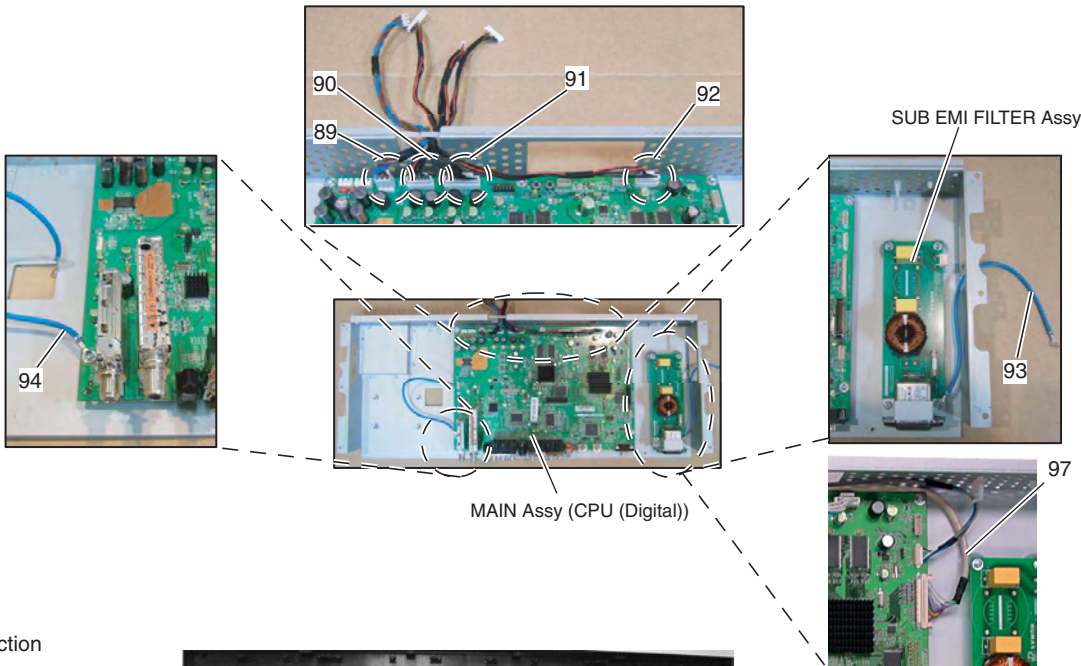


(1) EXTERIOR SECTION (2/2) PARTS LIST

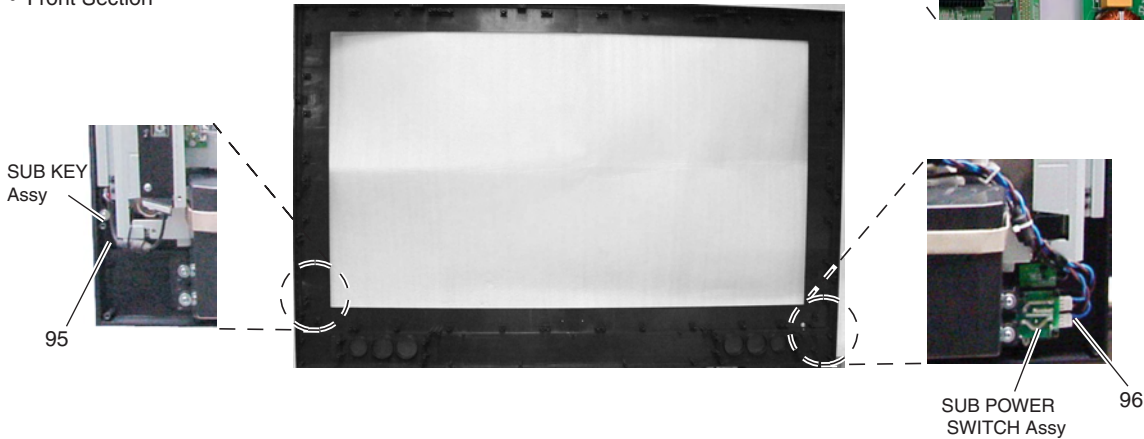
Mark No.	Description	Part No.	Mark No.	Description	Part No.
42	Speaker R 6 Ohm 20w /S	02400-0300	61	Screw M3 x 8	M1040300815
43	Screw T4 x 14	M1308401415	62	Screw M3 x 8	M1116300805
44	EMI Gasket 15 X 20 X 576	02900-0380	63	Screw M4 x 8	M1015400817
45	Brkt Rear Bottom	30104-10-001	64	Screw M4 x 8	M1015400817
46	Screw T4 x 16	M1305401617	65	Brkt Sub Side AV	01421-0440
47	Ass'y Shield Main	01434-0080	66	SUB SIDE AV Assy	220-2204
48	EMI Gasket 15 X 16X 260	02900-0340	67	Screw M3 x 8	M1040300815
49	MAIN ASSY (CPU (Digital))	010-2863	68	SUB THERMAL SENSOR Assy	220-2207
50	EMI Gasket 15 X 5 X 20	02900-0280	69	Screw M3x 8	M1040300815
51	EMI Gasket 15 X 10 X 30	02900-0250	70	Brkt Sub Side A	01421-0430
52	Screw M3 x 8	M1040300815	71	Screw T3 x 8	M1318300815
53	SUB EMI Filter Assy	150-2080	72	Screw M4x 8	M1015400817
54	Brkt N-Filter	30173-01-000	73	Brkt Side AV-USA	30166-05-002
55	Screw M3 x 8	M1040300815	74	Screw M3x 8	M1040300815
56	Screw M4X 6	M1033400615	75	Screw T3 x 8	M1305300817
57	Brkt Main AV-USA	30165-05-001	76	A'ssy Back	01428-0140
58	Washer Pai10	M1231111002	77	Screw M4x 8	M1015400817
59	Nut Unf 3/8 inchx 32	M1211210002	78	Screw T4 x 16	M1305401617
60	Screw M4 x 8	M1015400817	79	Speaker L 6 Ohm 20w /S	02400-0290
			80	Speaker R 6 Ohm 20w /S	02400-0300

1.1.6 EXTERIOR SECTION (3/3)

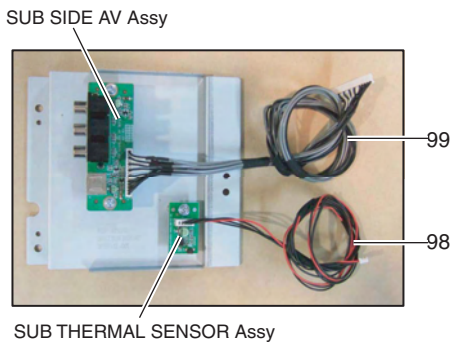
• Main Section



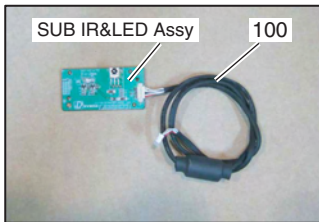
• Front Section



• Side AV Section



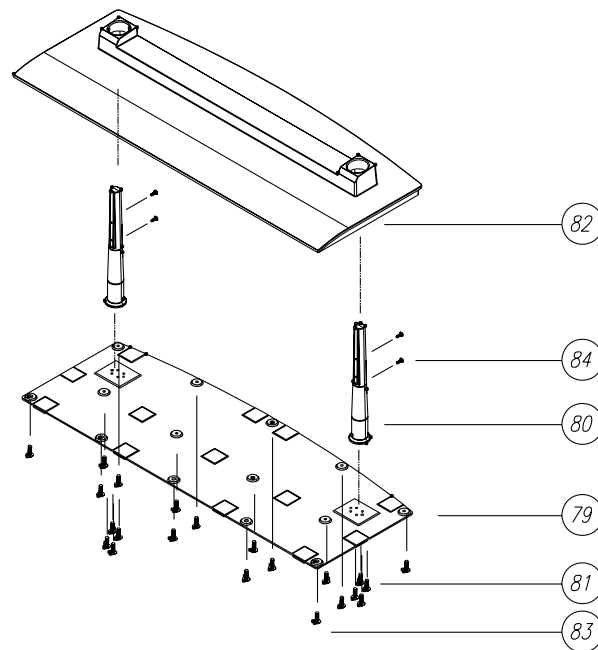
• SUB IR & LED Section



(1) EXTERIOR SECTION (3/3) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
89	Harness #970 Power(3p To 3p)	01301-0970	96	Harness #900 S/W (3p)+ F/T (3p)	01301-0900
90	Harness #940 Power(13p To 7p)	01301-0940	97	Harness #910 Lvds(32p, Lockin)	01301-0910
91	Harness #960 Power(10p To 10p)	01301-0960	98	Harness #930 T/M Sensor(5p To 4p)	01301-0930
92	Harness #950 Power (11p To 6p)	01301-0950	99	Harness #1000 Side AV(15p To 15p)	01301-1000
93	Harness #920 Gnd Filter	01301-0920	100	Harness #980 IR&LED (6p To 6p)	01301-0980
94	Harness #1150 Gnd Main B/D	01301-1150			
95	Harness #990 Key (5p To 5p)	01301-0990			

1.1.7 TABLE TOP STAND SECTION

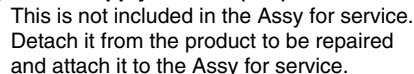


(1) TABLE TOP STAND PARTS LIST

Mark No.	Description	Part No.
79	A'ssy Brkt Base	01433-0250
80	Brkt Leg	30112-07-001
81	Screw M4x 8	M1015400817
82	Stand Base	30221-08-001
83	Screw T4 x 10	M1308401017
84	Screw M4x 16	M1040401617
85	Cable Tie LB-17E	30311-01-001
86	Cable Tie	30311-05-001
87	Wire Saddle-1nbe	30312-01-000
88	Additional Post B06	30631-02-006

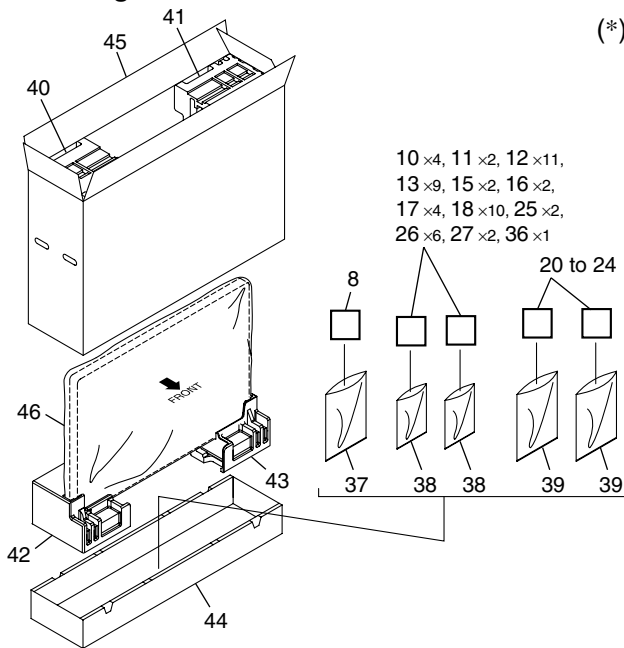
4

The parts labeled here with circled numbers are supplied with the Assy for service.
Attach them, referring to this diagram.



This spacer is used for attaching the Gasket AV8, and is not included in the Assy for service. Remove the 6 PCB Spacers from the product to be repaired and attach them to the Assy for service.

● Packing Section



(*)

No.	Part Name	Part No.	No. of pcs	Remarks
8	Clamp base	ANG3030	×1	Not used
10	PCB spacer	AEC1126	×4	Not used
12	Wire saddle	AEC1745	×11	Ten of the 11 wire saddles are to be used with this unit. Attach them to the places where T indications are engraved.
13	Wire saddle	AEC1751	×9	Not used
15	PCB support	AEC1938	×2	Attach them to the places where C indications are engraved.
16	PCB support	AEC1958	×2	Not used
17	Harness lifter 28	AEC1982	×4	Attach them to the places where U indications are engraved.
18	Ferrite clamp	AEC1986	×10	Eight of the 10 ferrite clamps are to be used with this unit.
22	DC sheet A	AMR3612	×1	Not used
23	Address sheet E	AMR3621	×1	Not used
24	Address sheet D	AMR3631	×1	Not used
25	Gasket E	ANK1874	×2	Not used
36	Screw	TBZ40P080FTB	×13	Twelve screws have been already secured to the Assy. The remaining one screw packed in a plastic bag is not used with this unit.

PDP SERVICE ASSY 507 (AWU1212) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	Panel Chassis (507) Assy	AWU1148	29	Rear Case (507)	ANE1656
2	Front Chassis VL (50)	AMA1014	30	Caution Label	AAX3031
3	Front Chassis VR (507)	AMA1022			
4	Sub Frame L Assy 507	ANA1945	NSP 31	Drive Voltage Label	ARW1097
5	Sub Frame R Assy 507	ANA1946	32	Screw (3 x 40P)	ABA1332
			33	Screw	ABA1351
6	Front Chassis H Assy (507)	ANA2031	34	Screw	ABA1364
7	Conductive Plate X	ANG2905	35	Screw	AMZ30P060FTB
8	Clamp Base (*)	ANG3030			
9	Cushion	AEB1424	36	Screw (*)	TBZ40P080FTB
NSP 10	PCB Spacer (*)	AEC1126	37	Polyethylene Bag	AHG1337
11	PCB Spacer	AEC1570	38	Polyethylene Bag S	AHG1338
12	Wire Saddle (*)	AEC1745	39	Polyethylene Bag	AHG1340
13	Wire Saddle (*)	AEC1751	40	Pad (507 T-L)	AHA2538
14	Screw Rivet	AEC1877			
15	PCB Support (*)	AEC1938	41	Pad (507 T-R)	AHA2539
16	PCB Support (*)	AEC1958	42	Pad (507 B-L)	AHA2540
17	Harness Lifter 28 (*)	AEC1982	43	Pad (507 B-R)	AHA2541
18	Ferrite Clamp (*)	AEC1986	44	Under Carton (507)	AHD3473
19	Re-use PCB Spacer	AEC2087	45	Upper Carton (507SV)	AHD3550
20	Address Sheet A	AMR3628			
21	Address Sheet F	AMR3646	46	Protect Sheet	AHG1331
22	DC Sheet A (*)	AMR3612	47	Screw	ABZ30P080FTC
23	Address Sheet E (*)	AMR3621	48	Screw	APZ30P080FTB
24	Address Sheet D (*)	AMR3631			
25	Gasket E (*)	ANK1874			
26	Gasket AV8	ANK1881			
27	Rivet A	BEC1158			
NSP 28	Front Case Assy (507SV)	AMB2977			

1.2 PDP-4216HD
1.2.1 PACKING SECTION

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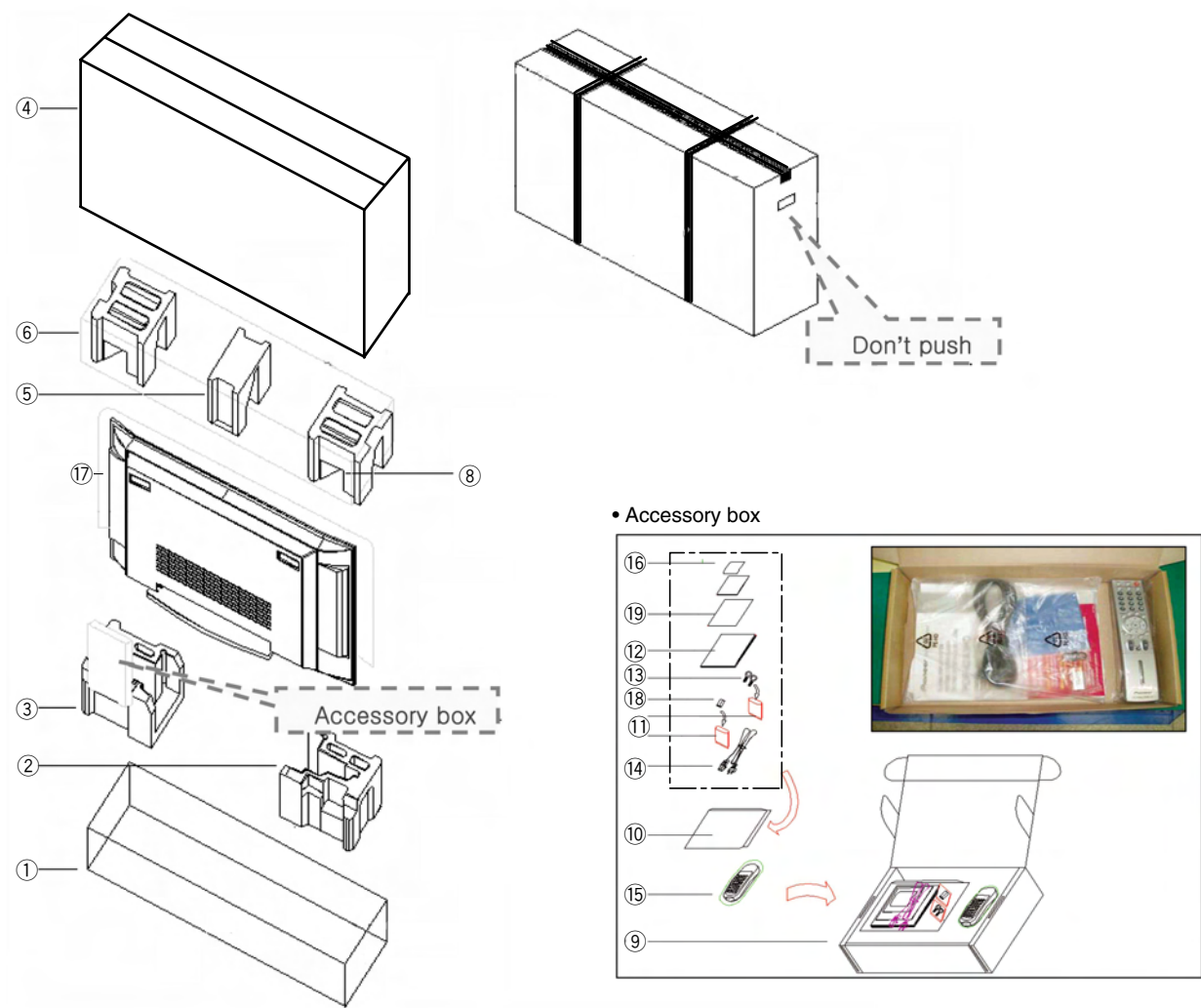
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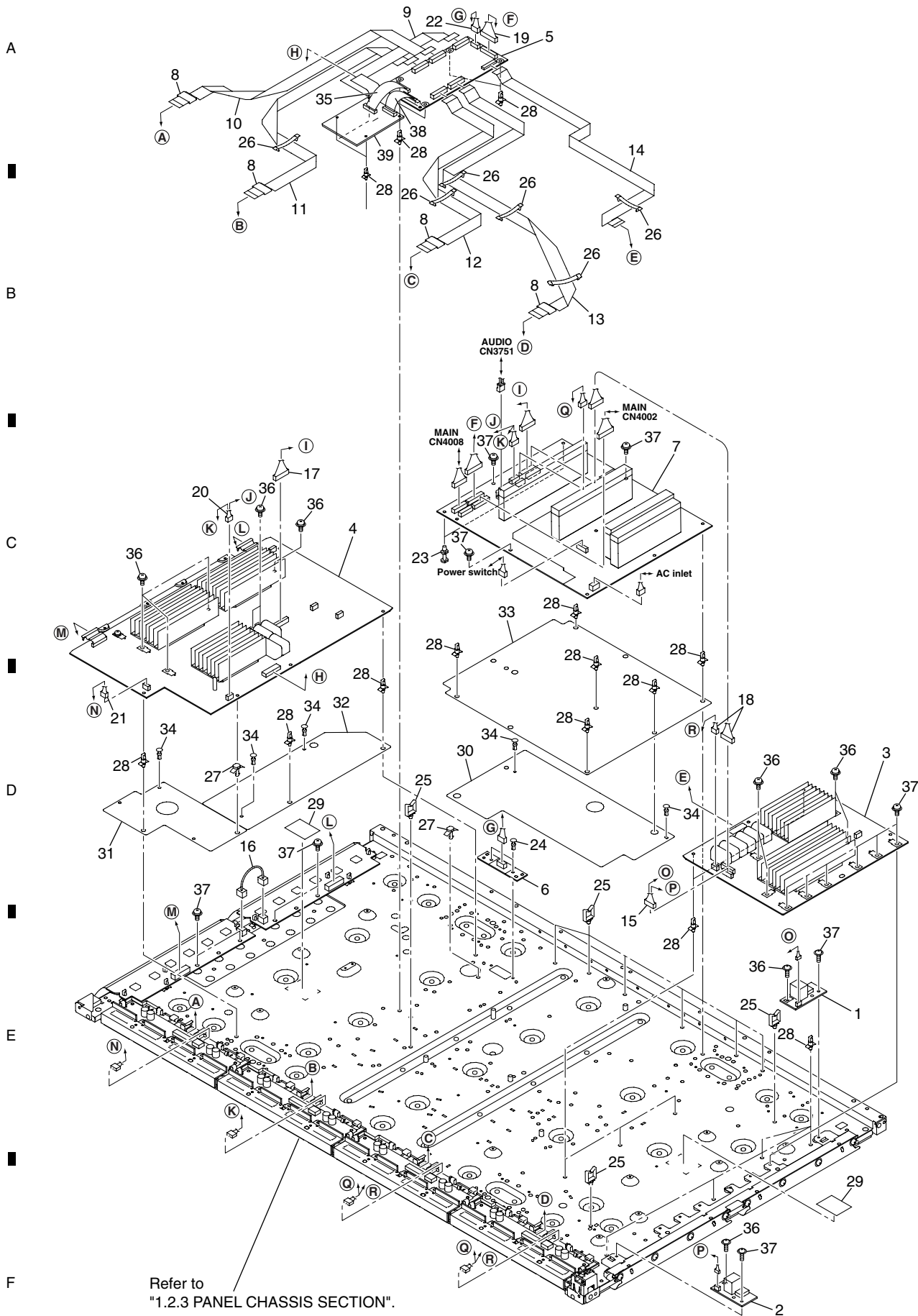
F



(2) PACING PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Gift Box-Bottom	30701-05-000
2	Cushion Bottom-Left	30711-13-004
3	Cushion Bottom-Right	30711-13-005
4	Carton Box Top	30701-17-001
5	Cushion Top-Center	30711-04-003
6	Cushion Top-Right	30711-13-002
7	•••••	
8	Cushion Top-Left	30711-13-001
9	Accessory Box	30751-04-000
10	Bag Vinyl B (260 x 360 x0.03)	10711-01-002
11	Bag Vinyl Zipper	10711-02-002
12	Operrating Instructions	20010-1320
13	Stay Bolt (Steel, M8x12)	30191-02-001
14	Power Cord	01300-0390
15	Remote Control unit	01400-0850
16	Wiping Cloth	AED1285
17	Packing Sheet	AHG1352
NSP 18	Battery	•••••
NSP 19	Warranty Card	•••••

1.2.2 CHASSIS SECTION



CHASSIS SECTION PARTS LIST

Mark No.	Description	Part No.
1	SUS CLAMP 1 Assy	AWW1022
2	SUS CLAMP 2 Assy	AWW1023
3	42 X DRIVE Assy	AWW1196
4	42 Y DRIVE Assy	AWV2400
5	42 DIGITAL Assy	AWW1138
6	SENSOR Assy	AWW1140
7	POWER SUPPLY Unit	AXY1153
8	Ferrite Core	ATX1048
9	Flexible Cable (J1204)	ADD1429
10	Flexible Cable (J1205)	ADD1430
11	Flexible Cable (J1206)	ADD1431
12	Flexible Cable (J1207)	ADD1432
13	Flexible Cable (J1208)	ADD1433
14	Flexible Cable (J1209)	ADD1434
15	6P&3P Housing Wire (J1214)	ADX3393
16	3P Housing Wire (J1211)	ADX3136
17	9P Housing Wire (J1217)	ADX3397
18	8P&5/4P Housing Wire (J1218)	ADX3468
19	14P Housing Wire (J1212)	ADX3323
20	6P/4P Housing Wire (J1215)	ADX3394
21	4P Housing Wire (J1216)	ADX3395
22	5P Housing Wire (J1213)	ADX3328
23	Spacer	AEC1065
24	Nylon Rivet	AEC1671
25	Wire Saddle	AEC1745
26	Flat Clamp	AEC1879
27	PCB Support	AEC1938
28	Re-use PCB Spacer	AEC2087
29	Drive Silicone Sheet	AEH1095
30	Power Supply Sheet B (507)	AMR3555
31	Y Drive Protection Sheet A	AMR3632
32	Y Drive Protection Sheet B	AMR3633
33	Power Supply Sheet (427)	AMR3648
34	Rivet A	BEC1158
35	Flexible Cable (J1210)	ADD1448
36	Screw	ABA1313
37	Screw	ABA1364
38	Flexible Cable (J1211)	ADD1449
39	INTERFACE Assy	AWV2373

1.2.3 PANEL CHASSIS SECTION

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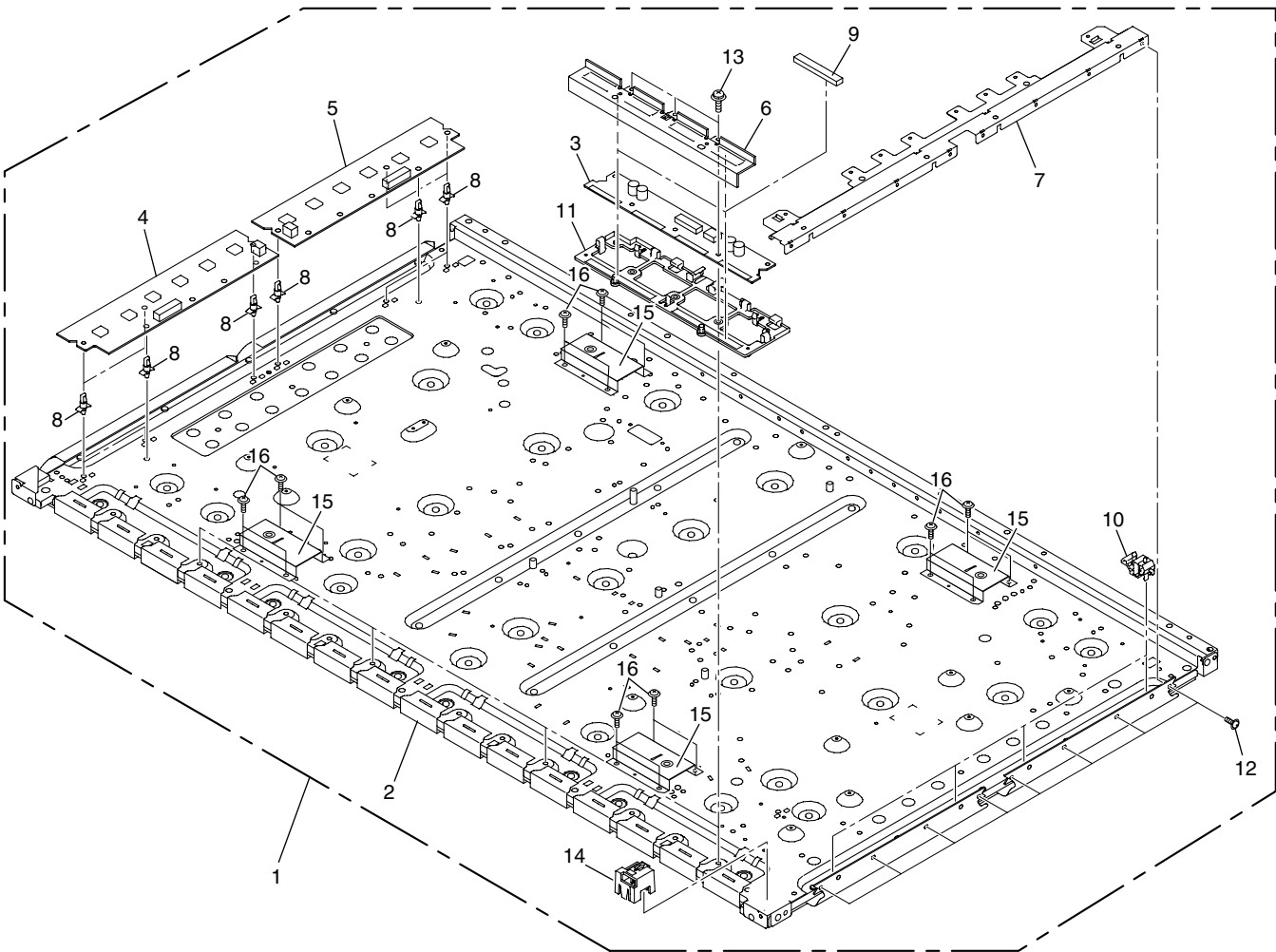
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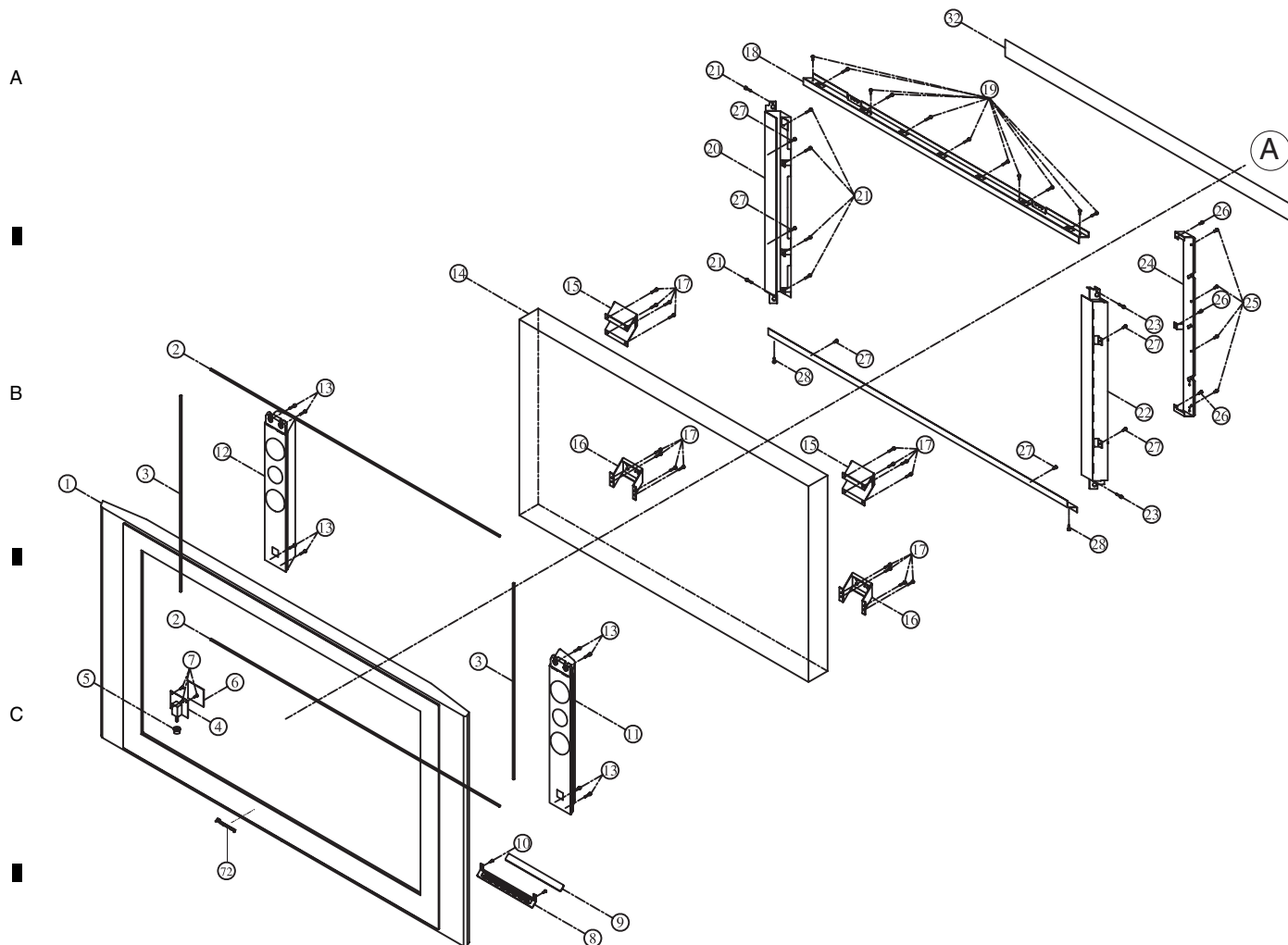
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	5		6		7		8	
PANEL CHASSIS SECTION PARTS LIST								
<u>Mark No.</u>	<u>Description</u>		<u>Part No.</u>					
NSP 1	Panel Chassis (427) Assy		AWU1171					
NSP 2	Plasma Panel (42DC) Assy		AWU1161					A
NSP 3	42 ADDRESS Assy		AWV2335					
NSP 4	42 SCAN A Assy		AWW1182					
NSP 5	42 SCAN B Assy		AWW1183					
	6	Address Heatsink	ANH1644					
	7	Conductive Plate X	ANG2791					
	8	Re-use PCB Spacer	AEC2087					
	9	Address Silicone A	AEH1093					
	10	Conductive Plate Holder	AMR3446					
	11	Address Holder Assy	AMR3460					B
	12	Screw	ABA1364					
	13	Screw	BBB30P120FNI					
	14	Tube Cover (FT)	AMR3557					
	15	Module Holder	ANG2939					
	16	Screw	ABA1335					
								C
								D
								E
								F

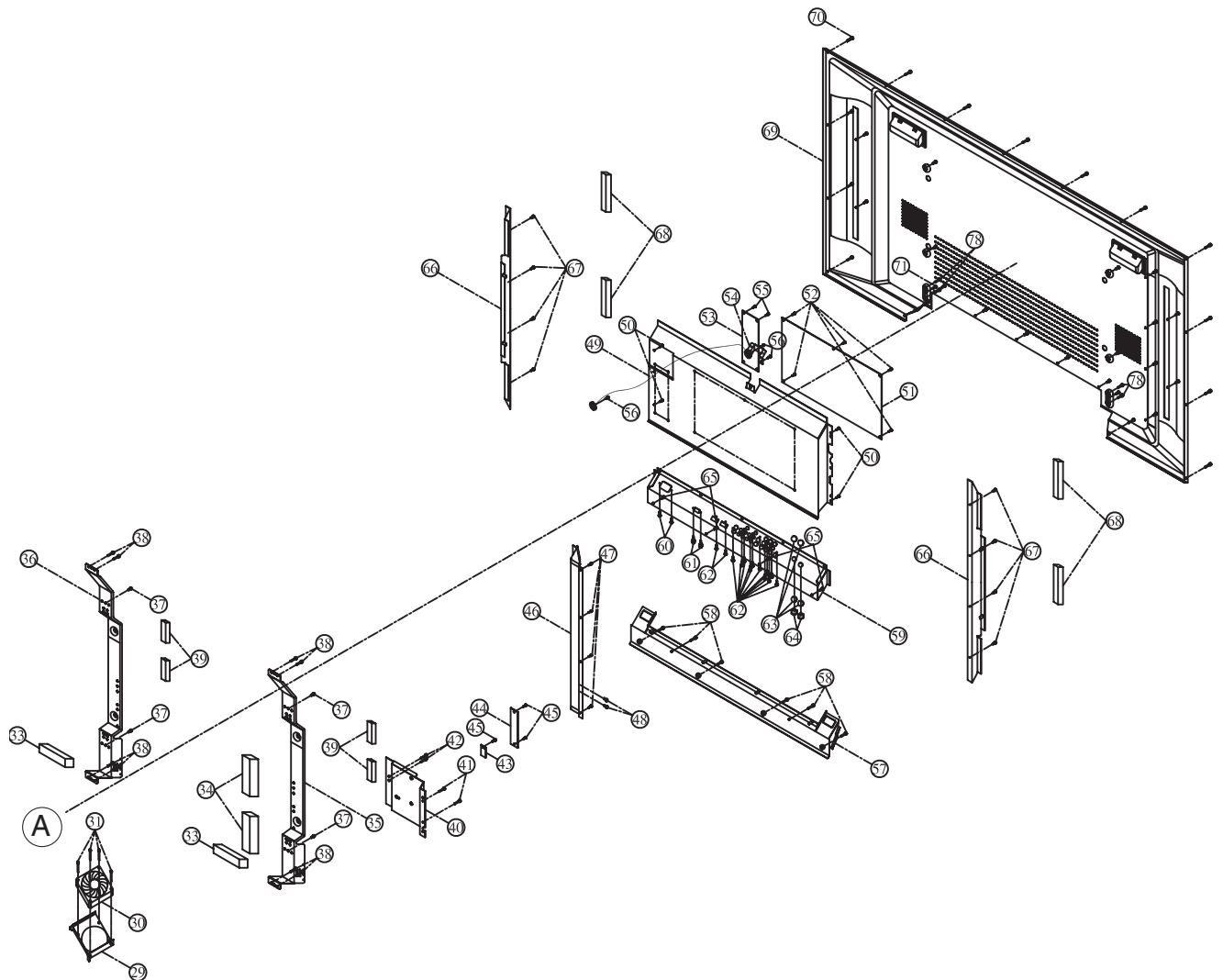
1.2.4 EXTERIOR SECTION (1/3)



(1) EXTERIOR SECTION (1/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Assy Cabinet Front	01421-0370	18	Ass'y Brkt M-hor Top	01433-0190
2	Cushion M-HOR	30331-02-001	19	Screw M3 x 8	M1040300815
3	Cushion M-VER	30331-03-001	20	Ass'y Brkt M-Ver R Bot	01433-0210
4	SUB POWER SWITCH Assy	150-2070	21	Screw T3 x 8	M1318300815
5	Knob Power PDP-4214H	30251-04-002	22	Ass'y Brkt M-Ver L Bot	01433-0220
6	Insulation Sheet-pow	30321-08-001	23	Screw M3 x 8	M1040300815
7	Screw T3 x 8	M1305300817	24	Brkt M-Ver R Top	30164-03-001
8	Knob Control	30252-14-001	25	Screw M3 x 8	M1040300815
9	SUB KEY Assy	220-2206	26	Screw M3 x 8	M1040300815
10	Screw T3 x 12	M1308301215	27	Ass'y Brkt M-Hor Bot	01433-0200
11	Speaker R 6 Ohm 15w /S	02400-0280	28	Screw T3 x 8	M1318300815
12	Speaker L 6 Ohm 15w /S	02400-0270	29	Brkt Fan	30172-03-001
13	Screw T4 x 14	M1308401415	30	Fan D08R-12TL	10511-10-001
NSP 14	Panel Chassis (427) Assy	AWU1171	31	Screw M4 x 20	M1040402017
15	Brkt Sub M-Top	30117-07-001	32	EMI Tape 50 (W) X 900 (L)	02900-0240
16	Brkt Sub M-Bot	30117-08-001	72	Pioneer Badge	AAM1113
17	Screw M3 x 8	M1040300815			

1.2.5 EXTERIOR SECTION (2/3)

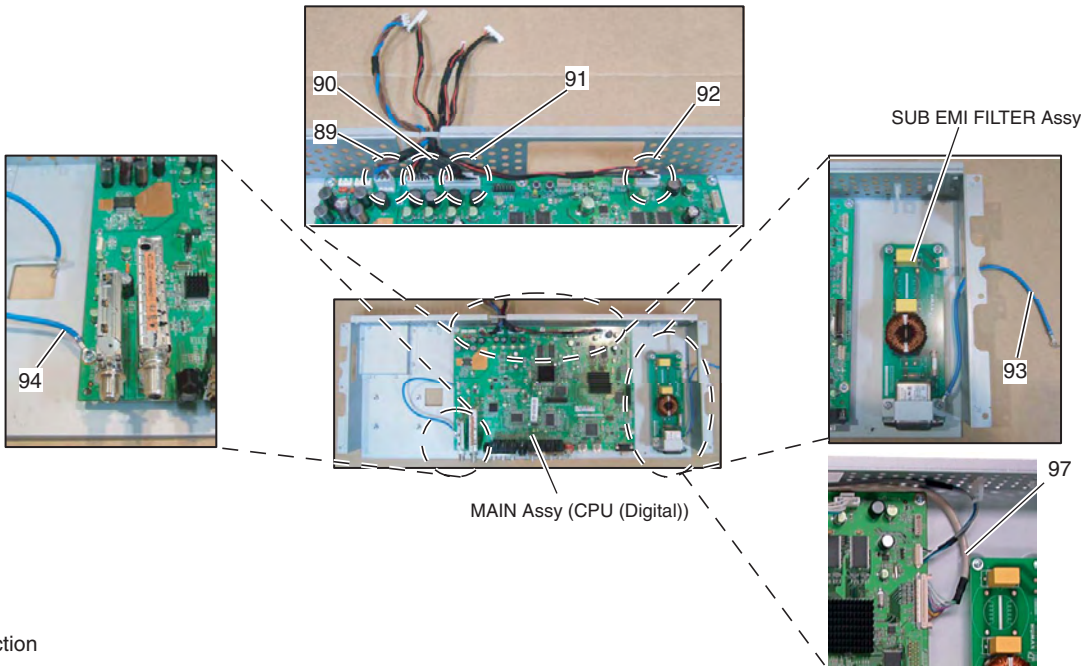


(1) EXTERIOR SECTION (2/2) PARTS LIST

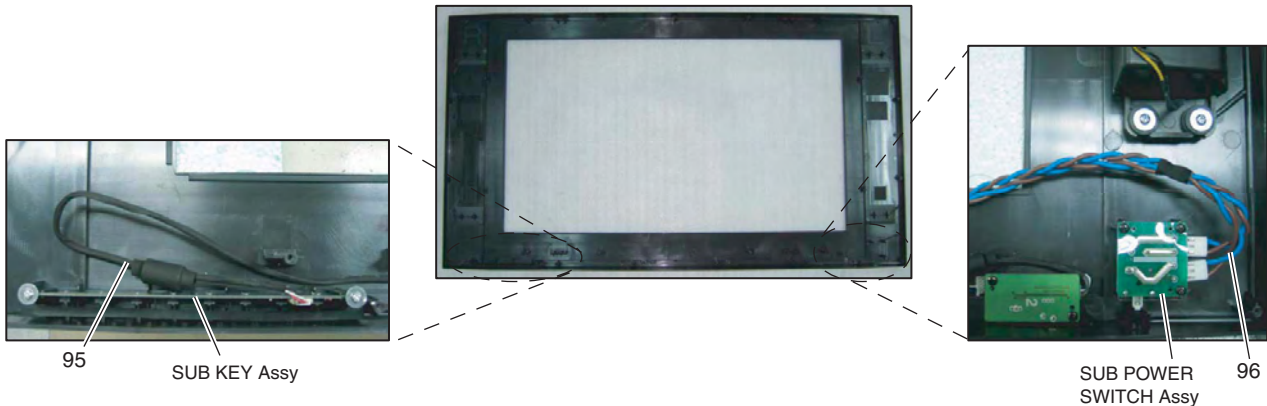
Mark No.	Description	Part No.	Mark No.	Description	Part No.
33	EMI Gasket 25 X 25 X 50	02900-0190	53	SUB EMI FILTER Assy	150-2080
34	EMI Gasket 25 X 25 X 100	02900-0200	54	Brkt N-Filter	30173-01-000
35	Ass'y Brkt V-Supporter- R	01433-0240	55	Screw M3 x 8	M1040300815
36	Ass'y Brkt V-Supporter- L	01433-0230	56	Screw M4 X 6	M1033400615
37	Screw M4 x 8	M1015400817	57	Assy Brkt Rear Bottom	01421-0380
38	Screw T4 x 16	M1305401617	58	Screw T4 x 16	M1305401617
39	EMI Gasket 13 X 15 X 51	02900-0230	59	Brkt Main AV-USA	30165-05-001
40	Brkt Sub Side AV	30117-06-001	60	Screw T3 x 8	M1305300817
41	Screw M3 x 8	M1040300815	61	Screw M3x 8	M1116300805
42	Screw M4 X 6	M1033400615	62	Screw M3x 8	M1040300815
43	SUB THERMAL SENSOR Assy 220-2207		63	Washer Pai10	M1231111002
44	SUB SIDE AV Assy	220-2204	64	Nut Unf 3/8inch x 32	M1211210002
45	Screw M3x 8	M1040300815	65	Screw M4x 8	M1015400817
46	Brkt Side AV-USA	30166-05-001	66	Shield Side	30103-06-001
47	Screw M3 x 8	M1040300815	67	Screw M3x 8	M1040300815
48	Screw T3 x 8	M1305300817	68	Emi Gasket 110 x 15 x 15t	30501-05-009
49	Ass'y Shield Main	01434-0080	69	Ass'y Back	01428-0120
50	Screw M3 x 8	M1040300815	70	Screw T4 x 16	M1305401617
51	MAIN Assy (CPU (Digital))	010-2863	71	Screw M4x 8	M1015400817
52	Screw M3 x 8	M1040300815			

1.2.6 EXTERIOR SECTION (3/3)

• Main Section

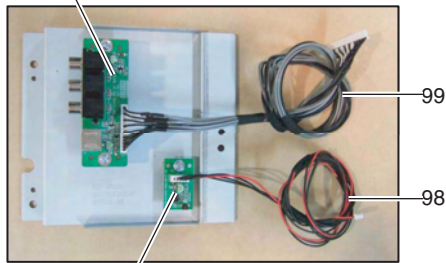


• Front Section



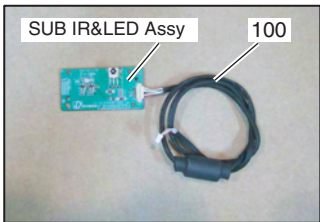
• Side AV Section

SUB SIDE AV Assy



SUB THERMAL SENSOR Assy

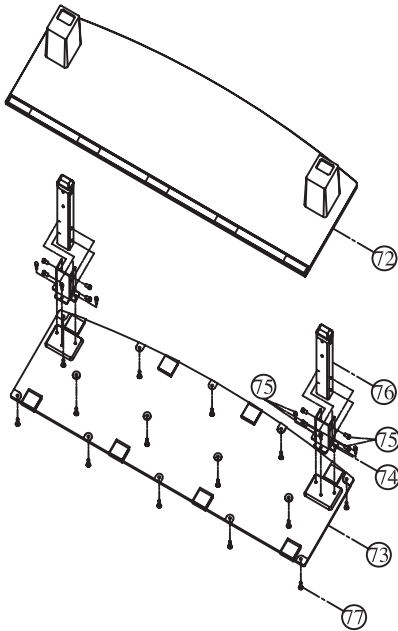
• SUB IR & LED Section



(1) EXTERIOR SECTION (3/3) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
89	Harness #970 Power(3p To 3p)	01301-0970	96	Harness #900 S/W (3p)+ F/T (3p)	01301-0900
90	Harness #940 Power(13p To 7p)	01301-0940	97	Harness #910 Lvds(32p, Lockin)	01301-0910
91	Harness #960 Power(10p To 10p)	01301-0960	98	Harness #930 T/M Sensor(5p To 4p)	01301-0930
92	Harness #950 Power (11p To 6p)	01301-0950	99	Harness #1000 Side AV(15p To 15p)	01301-1000
93	Harness #920 Gnd Filter	01301-0920	100	Harness #980 IR&LED (6p To 6p)	01301-0980
94	Harness #1150 Gnd Main B/D	01301-1150			
95	Harness #990 Key (5p To 5p)	01301-0990			

1.2.7 TABLE TOP STAND SECTION



(1) TABLE TOP STAND PARTS LIST

Mark No.	Description	Part No.
72	Ass'y Stand	01425-0120
73	Ass'y Brkt Base	01433-0120
74	Brkt Leg Supp Pau-42thd	30169-01-000
75	Screw M4x 8	M1015400817
76	Ass'y Stand Leg	01425-0130
77	Screw T4 x 10	M1308401017
78	Screw M4x 12	M1040401217

1.2.8 PDP SERVICE PANEL ASSY (AWU1208)

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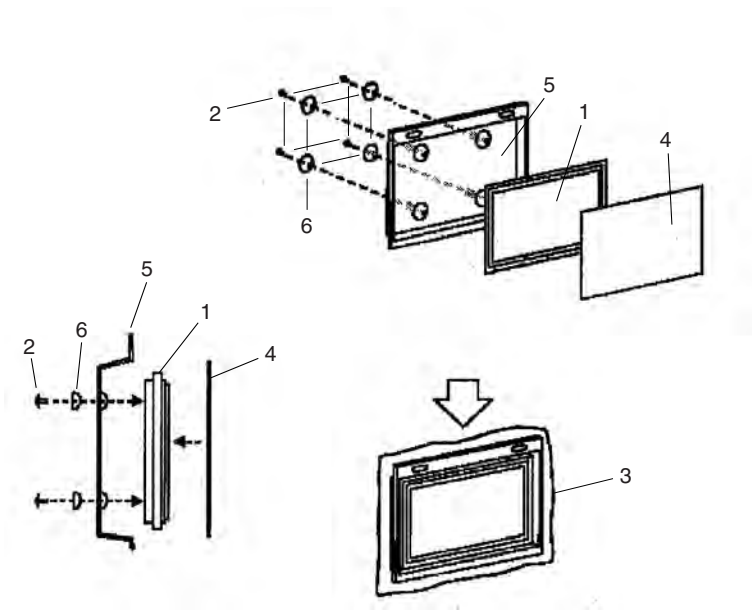
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PDP SERVICE PANEL ASSY 427 (AWU1208) PARTS LIST

Mark No.	Description	Part No.
NSP 1	P. Chassis (427) Assy	AWU1171
	Caution Label	AAX3031 x2
NSP	Drive Voltage Label	ARW1097
2	Screw	PMB50P150FTC x4

ACCESSORY 1

Vinyl Bag S	AHG1338
Screw	ABA1351 x3
Wire Saddle	AEC1745 x9
PCB Support	AEC1938 x2
Rivet A	BEC1158 x5

ACCESSORY 2

NSP	Vinyl Bag	AHG1340
	Y Drive Sheet A	AMR3632
	Power Sheet (427) A	AMR3648
	Gasket Address (42)	ANK1877 x4

PACKING PARTS

Pad 42SINGLE(T-L)	AHA2550
Pad 42SINGLE(T-R)	AHA2551
Pad 42SINGLE(B-L)	AHA2552
Pad 42SINGLE(B-R)	AHA2553
Upper Carton (42SINGLE)	AHD3480

3	Under Carton (42SINGLE)	AHD3481
4	Polyethylene Bag	AHG1381
	Packing Sheet	AHG1386
5	Tray (FT)	AHX1158
6	Cup Spacer (15)	ANG2936 x4

2. PCB PARTS

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 $\times 10^1$ \rightarrow 561 RD1/4PU $\overline{561}$ J

47k Ω \rightarrow 47 $\times 10^3$ \rightarrow 473 RD1/4PU $\overline{473}$ J

0.5 Ω \rightarrow R50 RN2H $\overline{R50}$ K

1 Ω \rightarrow 1R0 RSIP $\overline{1R0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 $\times 10^1$ \rightarrow 5621 RN1/4PC $\overline{5621}$ F

2.1 PCB PARTS LIST (PDP-4216HD)

MarkNo.	Description	Part No.
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LIST OF ASSEMBLIES

NSP	1..PANEL CHASSIS (427S) ASSY	AWU1185
NSP	2..42 ADDRESS ASSY	AWV2335
NSP	2..42 SCAN ASSY	AWV2362
NSP	3..42 SCAN A ASSY	AWW1182
NSP	3..42 SCAN B ASSY	AWW1183
NSP	1..42 X DRIVE ASSY	AWV2399
	2..42 X DRIVE ASSY	AWW1196
	2..SUS CLAMP 1 ASSY	AWW1022
	2..SUS CLAMP 2 ASSY	AWW1023
	1..42 Y DRIVE ASSY	AWV2400
NSP	1..42 DIGITAL ASSY	AWV2301
	2..42 DIGITAL ASSY	AWW1138
	2..SENSOR ASSY	AWW1140
	1..INTERFACE ASY	AWV2373
Δ	1..POWER SUPPLY UNIT	AXY1153
	1..SUB IR&LED ASSY	220-2205
	1..SUB POWER SWITCH ASSY	150-2070
	1..SUB KEY ASSY	220-2206
	1..SUB THERMAL SENSOR ASSY	220-2207
	1..SUB SIDE AV ASSY	220-2204
	1..MAIN ASSY ASSY(CPU (Digital))	010-2863

POWER SUPPLY UNIT

POWER SUPPLY UNIT has no service part.

SUB IR&LED ASSY

SUB IR&LED Assy has no service part.

SUB POWER SWITCH ASSY

SUB POWER SWITCH Assy has no service part.

SUB KEY ASSY

SUB KEY Assy has no service part.

SUB THERMAL SENSOR ASSY

SUB THERMAL SENSOR Assy has no service part.

SUB SIDE AV ASSY

SUB SIDE AV Assy has no service part.

MAIN ASSY (CPU (Digital))

MAIN ASSY Assy (CPU (Digital)) has no service part.

Mark No.	Description	Part No.
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42 DIGITAL ASSY

[DIGITAL IF BLOCK]

MISCELLANEOUS

F3001	CCG1162
CN3001	AKM1353
CN3002	AKM1235

RESISTORS

R3007, 3010-3016	RAB4C470J
R3020-3022	RAB4C103J
Other Resistors	RS1/16SS###J

[MODULE UCOM BLOCK]

SEMICONDUCTORS

IC3152, 3153	SN74AHC541PW
IC3155	SN74AHC08PW
IC3156	BR24L04FJ-W
IC3157	M62334FP
IC3159	TC7W126FU
IC3160, 3161	TC74VHC123AFTS1
Q3151	2SJ461A
D3151, 3152, 3154, 3155	DAN202U
D3158, 3159, 3161-3163	1SS355

MISCELLANEOUS

X3151	CSS1616
CN3151	AKM1276
CN3152	CKS4828

RESISTORS

R3155, 3160, 3170, 3176	RAB4C101J
R3174	RAB4C103J
Other Resistors	RS1/16SS###J

CAPACITORS

C3151	CEHVKW470M6R3
C3152, 3153, 3155-3158	CKSSYB104K10
C3159, 3171, 3172, 3182	CKSRYB105K6R3

	1		2		3		4
	Mark No.	Description	Part No.		Mark No.	Description	Part No.
		C3162, 3163, 3165, 3166 C3164	CKSSYB104K10 CCSSCH101J50		[ADDRESS CN BLOCK] SEMICONDUCTORS		
A		C3167 C3168, 3170, 3181	CKSSYB103K16 CKSSYB104K10		Q3501, 3502 D3501, 3502		RN1901 DAN202U
	SEMICONDUCTORS				MISCELLANEOUS		
		IC3151	AGC1011		CN3501–3504, 3506 CN3505		AKM1348 VKN1310
	[PANEL FLASH BLOCK] SEMICONDUCTORS				RESISTORS		
B		IC3302, 3305 IC3303 IC3304 Q3301 Q3302	PST3628UR SN74AHC08PW PST3610UR RN1901 HN1C01FU		R3519, 3520 R3521, 3522, 3525 R3524 Other Resistors		RAB4C472J RAB4C101J RAB4C222J RS1/16SS###J
	MISCELLANEOUS				[DIGITAL DD CON BLOCK] SEMICONDUCTORS		
		X3302 (102.5 MHz) CN3301	ASS1188 CKS4835		IC3601		BA80BC0WFP
	RESISTORS				MISCELLANEOUS		
C		R3307, 3308 Other Resistors	RAB4C101J RS1/16SS###J		U3601		AXY1137
	CAPACITORS				RESISTORS		
		C3301–3303, 3306, 3308 C3304, 3307, 3309 C3305, 3310 C3311 C3315, 3316 C3317	CKSSYB104K10 CKSSYB472K16 CKSSYB102K50 CCSRCH470J50 CKSSYB104K10 CCSRCH471J50		R3611 Other Resistors		RAB4C101J RS1/16SS###J
	SEMICONDUCTORS				CAPACITORS		
D		IC3301	AGC1010		C3609 C3611 C3612 (100 μF/16 V) C3613		CKSSYB104K10 CKSQYB105K16 ACH1394 CKSSYB103K16
	[SQ ASIC BLOCK] SEMICONDUCTORS				SENSOR ASSY SEMICONDUCTORS		
		IC3401	PEG239A		IC3651 IC3652 Q3651		MM1522XU BR24L02FJ-W HN1B04FU
	MISCELLANEOUS				MISCELLANEOUS		
E		L3401–3403 F3401, 3402	QTL1013 CCG1162		CN3651 All Resistors		AKM1276 RS1/16SS###J
	RESISTORS				CAPACITORS		
		R3402, 3412 R3405–3407, 3409, 3410 R3416 R3425 Other Resistors	RAB4C101J RAB4C220J RAB4C220J RS1/16SS5601F RS1/16SS###J		C3651, 3653 C3652, 3654 C3656, 3657		CKSRYB105K6R3 CKSSYB103K16 CKSSYB104K10
	CAPACITORS				42 X DRIVE ASSY MISCELLANEOUS		
F		C3401, 3402, 3419, 3425 C3403–3413, 3417, 3418 C3420–3424, 3426–3432 C3445–3448	CEHVKW101M6R3 CKSSYB104K10 CKSSYB104K10 CKSSYB104K10		1001 1001 1002 1002		BMZ30P080FTC ANH1637 AEH1092 ANH1639
					[42X LOGIC BLOCK]		

5	6	7	8	
Mark No.	Description	Part No.	Mark No.	Description
<u>SEMICONDUCTORS</u>				
IC1001	TC74ACT541FT	D1252	CRH01	
IC1002	TC74VHC00FTS1	D1281	1SS302	
		D1282	UDZS16(B)	A
<u>MISCELLANEOUS</u>		<u>MISCELLANEOUS</u>		
CN1001	VKN1310	L1201, 1205, 1231 (10 μ H)	LFEA100J	
		L1204, 1211 (1.0 μ H)	ATH1186	
<u>RESISTORS</u>		F1201	CTF1449	
R1001, 1003	RAB4C470J	KN1201–1206, 1208–1211	ANK-142	
R1008, 1009, 1020	RAB4C472J	CN1201	B8B-EH	
Other Resistors	RS1/16S###J	CN1202	B6B-EH	
<u>CAPACITORS</u>		<u>RESISTORS</u>		B
C1001, 1002	CKSRYB104K16	R1204 (2.2 Ω , 1/2 W)	ACN1166	
C1003	CEHAT470M16	R1213 (3.3 Ω , 1/2 W)	ACN1168	
C1004	CCSRCH680J50	R1276, 1277	RS3LMF331J	
		Other Resistors	RS1/16S###J	
[42X RESONANCE BLOCK]		<u>CAPACITORS</u>		
<u>SEMICONDUCTORS</u>		C1204, 1207, 1223, 1251	CKSRYF104Z50	
IC1101	AXF1145	C1206	CEHAT101M25	
IC1141	BA10393F	C1208	CEHAT470M16	
Q1141	2SC4116	C1211, 1225–1227, 1297 (3300 pF/630 V)	ACG1129	
D1101–1105	D1FL40	C1212, 1213 (280 μ F/250 V)	ACH1424	C
<u>MISCELLANEOUS</u>		C1214–1217 (2.2 μ F/250 V)	ACE1178	
L1101, 1102	ATH1155	C1220	CKSYB105K25	
L1103–1106	ATH1193	C1221	CKSRYB105K6R3	
		C1222, 1272	CEHAT470M25	
<u>RESISTORS</u>		C1231	CEHAT101M10	
R1101 (3.3 Ω , 1/2 W)	ACN1168	C1253, 1273	CKSRYF104Z50	
R1106	ACN1252	C1283	CEHAT2R2M2E	
R1121	RS2MMF100J	C1298 (3300 pF/630 V)	ACG1129	
R1122, 1123	RS1/10S104J			
R1142, 1146	RS1/10S1003F			
R1148, 1150	RS1/16S5601F	<u>[42X D-D CON BLOCK]</u>		D
R1151, 1155	RS1/16S6801F	<u>SEMICONDUCTORS</u>		
Other Resistors	RS1/16S###J	IC1321	PS2701A-1(L)	
<u>CAPACITORS</u>		IC1326	TA76431FR	
C1101, 1112, 1113 (0.22 μ F/250 V)	ACG1112	Q1301, 1323	2SD1898	
C1102, 1146	CKSRYB105K6R3	Q1302	2SC4081	
C1103	CKSYB105K25	Q1321, 1325, 1351	HN1C01FU	
C1105	CCG1186	Q1324	2SA1037K	
C1121 (470 pF/630 V)	ACG1126	D1301, 1302, 1326, 1327	CRH01	
C1141, 1142, 1144, 1145	CKSRYB104K16	D1303, 1324	1SS301	
C1161–1164, 1166 (3.3 μ F/250 V)	ACE1168	D1304, 1307, 1325, 1328	1SS355	
C1167, 1168 (3300 pF/630 V)	ACG1129	D1306, 1323, 1331	UDZS5R1(B)	E
		D1321	D1FK60	
		D1329, 1330	UDZS4R7(B)	
<u>[42X SUS BLOCK]</u>		<u>MISCELLANEOUS</u>		
<u>SEMICONDUCTORS</u>		VR1321	CCP1392	
IC1201	MM1565AF	T1301	ATK1159	
IC1202	AXF1143	T1321	ATK1160	
IC1251	TND301S			
IC1252	PS9117			
IC1271	TND307TD			
Q1251	2SC2412K	<u>RESISTORS</u>		F
Q1272	2SK3325	R1321, 1322, 1326, 1339	RS1/10S224J	
D1201	1SS355	R1337	RAB4C472J	
D1251	UDZS5R6(B)	Other Resistors	RS1/16S###J	

1

2

3

4

Mark No. **Description**

Part No.

Mark No. **Description**

Part No.

CAPACITORS

C1301, 1303, 1323
C1302, 1321
C1304, 1306
C1307, 1324, 1327
C1325 (22 μ F/250 V)

CKSRYB103K50
CEHAT101M25
CKSRYB104K16
CKSYB105K25
ACH1428

C1326

CEHAT100M50

R2003, 2006
R2004, 2005, 2019, 2020
R2038, 2039
Other Resistors

RAB4C101J
RAB4C472J
RAB4C472J
RS1/16S###J

CAPACITORS

C2001, 2002, 2004–2006
C2003
C2008

CKSSYB104K10
CEHAT470M16
CCSRCH680J50

SUS CLAMP 1 ASSY **SEMICONDUCTORS**

D1631

DF20L60U

MISCELLANEOUS

KN1631
KN1632
CN1631

VNF1084
ANK-142
B3B-EH

CAPACITORS

C1632 (1.2 μ F/250 V)

ACE1179

SUS CLAMP 2 ASSY **SEMICONDUCTORS**

D1641

DF20L60U

MISCELLANEOUS

KN1641
KN1642
CN1641

VNF1084
ANK-142
B3B-EH

CAPACITORS

C1642 (1.2 μ F/250 V)

ACE1179

42 Y DRIVE ASSY

MISCELLANEOUS

2001
2001
2001
2001
2002

AEH1092
ABA1349
ANG2790
ANH1638
BMZ30P080FTC

2002

ANH1639

[42Y LOGIC BLOCK] **SEMICONDUCTORS**

IC2001, 2004
IC2002
IC2003, 2005

TC74ACT541FT
TC74ACT540FT
TC74VHC08FTS1

MISCELLANEOUS

CN2001

AKM1348

RESISTORS

R2001, 2002, 2017, 2021

RAB4C470J

[42Y RESONANCE BLOCK] **SEMICONDUCTORS**

IC2101
IC2141
Q2141
D2101–2105

AXF1145
BA10393F
2SC4081
D1FL40

MISCELLANEOUS

L2101, 2102
L2103–2106

ATH1155
ATH1193

RESISTORS

R2101 (10 Ω , 1/2 W)
R2102
R2103, 2107
R2108
R2142, 2143

ACN1174
RS2MMF100J
RS1/10S104J
ACN1241
RS1/10S1003F

R2146, 2149
R2147, 2151
Other Resistors

RS1/16S5601F
RS1/16S6801F
RS1/16S###J

CAPACITORS

C2101, 2145
C2102
C2103, 2107, 2108 (0.22 μ F/250 V)
C2104, 2106 (470 pF/630 V)
C2109–2112 (3300 pF/630 V)

CKSRYB105K6R3
CKSYB105K25
ACG1112
ACG1126
ACG1129

C2131–2134, 2136 (3.3 μ F/250 V)
C2141, 2143, 2144

ACE1168
CKSSYB104K10

[42Y SUS BLOCK] **SEMICONDUCTORS**

IC2203, 2221
IC2231, 2251
IC2250
IC2252, 2253
IC2350

TND307TD
TND301S
PS9117
AXF1144
MM1565AF

Q2202
Q2221
Q2250
Q2280, 2281
Q2290

2SA2142
2SK3325
2SC4081
2SK3399
2SK3050

D2202, 2204, 2205, 2234
D2203, 2212, 2351
D2211
D2213
D2232, 2271

CRH01
1SS355
D1FK60
1SS302
UDZS16(B)

D2233
D2250

1SS301
UDZS5R6(B)

5	Mark No.	Description
	D2251, 2252, 2272	

MISCELLANEOUS

L2350, 2351, 2354 (10 μ H)
 L2353 (1.0 μ H)
 F2301-2320
 F2352
 KN2350, 2352, 2354, 2356

KN2357, 2359-2363
 CN2350
 CN2351, 2352

RESISTORS

R2203
 R2210
 R2211
 R2222, 2224
 R2277-2281

R2290
 R2304 (10 Ω , 1/2 W)
 R2352 (2.2 Ω , 1/2 W)
 R2360, 2362 (22 Ω , 1/2 W)
 Other Resistors

CAPACITORS

C2203-2206 (3300 pF/630 V)
 C2207
 C2208, 2221, 2339, 2364
 C2209, 2222, 2230, 2252
 C2226 (3.3 μ F/400 V)

C2231 (0.33 μ F/100 V)
 C2250
 C2270 (270 μ F/100 V)
 C2271, 2272 (0.1 μ F/100 V)
 C2330, 2335, 2341, 2342 (2.2 μ F/250 V)

C2336, 2337 (280 μ F/250 V)
 C2353, 2358, 2359
 C2354, 2360
 C2355, 2369
 C2356

C2357
 C2363

[42Y SCAN BLOCK] SEMICONDUCTORS

IC2401
 IC2402, 2407
 IC2403, 2405, 2406, 2408
 IC2409, 2410
 D2402

MISCELLANEOUS

L2401-2403 (10 μ H)
 F2401-2404
 CN2401, 2402

RESISTORS

R2407, 2421
 Other Resistors

6	Part No.
	CRH01

LFEA100J
 ATH1186
 ATX1062
 CTF1449
 ANK-142

ANK-142
 B9B-EH
 B4B-PH

RS3LMF152J
 RS1/10S151J
 RS1/10S561J
 RS2MMF5R6J
 RS3LMF8R2J

RS1MMF471J
 ACN1174
 ACN1166
 ACN1178
 RS1/16S###J

ACG1129
 CCSRCH102J50
 CEHAT470M25
 CKSRYF104Z50
 ACH1427

ACG1118
 CKSSYB104K10
 ACH1426
 ACG1124
 ACE1178

ACH1424
 CKSRYB105K6R3
 CKSYB105K25
 CEHAT101M10
 CKSRYB104K16

CEHAT470M16
 CKSRYB473K16

PS9851-2(P)
 TC74AC540FT
 PS9117
 PST3638UR
 CRH01

LFEA100J
 ATX1059
 AKM1200

RAB4C220J
 RS1/16S###J

7	Mark No.	Description
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CAPACITORS

C2401, 2407, 2414
 C2402, 2403, 2405
 C2404, 2411 (47 μ F/160 V)
 C2408-2410, 2412
 C2416, 2417

[42Y VH D-D CON BLOCK] SEMICONDUCTORS

IC2502
 IC2503
 IC2531
 IC2534, 2535
 Q2511

Q2531
 Q2532
 Q2533
 D2522, 2524
 D2523, 2532

D2530, 2531
 D2533
 D2534
 D2536

MISCELLANEOUS

L2501
 VR2503
 VR2531
 T2503

RESISTORS

R2533, 2556
 R2534, 2535, 2541
 R2542, 2545
 R2548
 R2549, 2557

R2550
 R2553
 R2558
 Other Resistors

CAPACITORS

C2513 (22 μ F/250 V)
 C2514, 2525, 2534
 C2515
 C2516 (100 μ F/160 V)
 C2520

C2521, 2533, 2535
 C2528
 C2531 (0.01 μ F/400 V)
 C2532 (10 μ F/400 V)
 C2536

[42Y D-D CON BLOCK] SEMICONDUCTORS

IC2601, 2603, 2606
 IC2602
 IC2605, 2614
 Q2601, 2609

8	Part No.	
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CEHAT101M10
 CKSSYB104K10
 ACH1406
 CKSSYB104K10
 CKSRYB102K50

MIP2E3DMC
 PS2701A-1(L)
 BA10358F
 TA76431FR
 HN1C01FU

2SC3425
 2SD2568
 2SC2412K
 CRH01
 D1FK60

UDZS8R2(B)
 UDZS33(B)
 1SS355
 UDZS4R7(B)

LFEA101J
 CCP1390
 CCP1392
 ATK1158

RS1/10S104J
 RS1/10S2203F
 RS1/16S5601F
 RS1/16S1003F
 RS1/16S4702F

RS1/16S1802F
 RAB4C472J
 RS1/10S0R0J
 RS1/16S###J

ACH1428
 CKSRYB104K16
 CEHAT101M25
 ACH1360
 CEHAT101M16

CKSRYB104K25
 CEHAT221M16
 ACE1177
 ACH1425
 CEHAT470M25

PS2701A-1(L)
 BA10358F
 TA76431FR
 2SA1576A

Mark No. Description**Part No.**

Q2602, 2613, 2641

HN1C01FU

Q2603, 2604, 2611
Q2605, 2606
Q2607
Q2608
Q2610DTC143EUA
2SD1898
2SC2713
2SA2005
2SA1163Q2612
D2601, 2603, 2609, 2618
D2602, 2613–2615
D2604, 2612
D26052SC4081
CRH01
1SS355
1SS301
UDZS5R1(B)D2607, 2608
D2610
D2611
D2616
D2617UDZS4R7(B)
D1FL40
1SS226
UDZS5R6(B)
UDZS15(B)**MISCELLANEOUS**VR2601
T2601
T2602CCP1390
ATK1161
ATK1156**RESISTORS**R2608, 2612, 2630, 2632
R2613
R2618
R2625, 2626
R2627RS1/16S4701F
RAB4C472J
RS1/16S4702F
RS1/16S1501F
RS3LMF151JR2629
R2635
R2636
R2641, 2642
R2652RS1/16S1002F
RS1/16S4701F
RS1/16S5601F
RS1/10S224J
RS1/16S6801F

Other Resistors

RS1/16S###J

CAPACITORSC2601, 2604, 2609
C2602, 2615
C2603
C2605, 2612, 2614
C2606CKSRYB104K16
CKSRYB105K6R3
CKSRYF104Z50
CKSRYB103K50
CEHAT221M6R3C2607
C2608, 2610
C2611
C2613CKSRYB102K50
CEHAT101M25
CKSSYB104K10
CEHAT221M25

All Resistors

RS1/16S###J

42 ADDRESS ASSY**[42 ADR LOGIC]****SEMICONDUCTORS**

IC1501

PEE002A

MISCELLANEOUSL1504
CN1501
CN1502QTL1013
AKM1348
AKM1290**Mark No. Description****Part No.****RESISTORS**R1505–1509
R1530, 1531
Other ResistorsRS1/16SS1000F
RS1/16S0R0J
RS1/16SS###J**CAPACITORS**C1501
C1502 (47 μ F/6.3 V)
C1503–1507, 1552–1555
C1509, 1510
C1557CKSRYB105K6R3
ACH1357
CKSSYF104Z16
CKSSYB102K50
CCSSCH470J50**[42 ADR RESONANCE]
SEMICONDUCTORS**IC1601, 1602
Q1601, 1610
Q1602, 1609
Q1606, 1608, 1611
Q1612TND307TD
HAT3021R
HAT1110R
QSZ2
2SA1163Q1613, 1614
D1601, 1606, 1618, 1619
D1602, 1603, 1620, 1621
D1604, 1605, 1622, 1623
D1612RN1901
UDZS15(B)
EC10UA20
CRH01
1SS302

D1625, 1628

1SS355

MISCELLANEOUSL1601, 1604 (0.58 μ H)

ATH1135

RESISTORSR1606, 1611, 1613
R1607, 1619, 1621, 1636
R1637
Other ResistorsRS1/16SS330J
RS1/16SS0R0J
RS1/16SS0R0J
RS1/16S###J**CAPACITORS**C1601, 1614 (0.1 μ F/100 V)
C1602–1605 (56 μ F/80 V)
C1609 (0.1 μ F/100 V)
C1613
C1619ACG1124
ACH1405
ACG1098
CKSRYB104K25
CKSYB105K16**42 SCAN A ASSY****SEMICONDUCTORS**IC2701–2706
IC2707
D2701–2707SN755870KPZT-P
TC7SH08FUS1
1SS355**MISCELLANEOUS**CN2701
CN2702AKP1261
AKM1274**RESISTORS**R2705, 2710, 2713, 2716
R2719, 2722
Other ResistorsRAB4C221J
RAB4C221J
RS1/16S###J

5		6		7		8
Mark No.	Description	Part No.	Mark No.	Description	Part No.	
CAPACITORS			MISCELLANEOUS			
C2701, 2711, 2721, 2731 (0.22 μF/250 V)	ACG1125		F101-103 FILETER		ATF1213	
C2703, 2713, 2723, 2733	CKSRYB105K6R3		K101,102 TEST PIN		AKX9002	
C2705-2707, 2715-2717	CCSRCH390J50		S104,105 SLIDE SWITCH		ASH1047	A
C2708, 2709, 2718, 2719	CCSRCH331J50		X101 XTAL RESONATOR (16 MHz)		ASS1145	
C2710, 2720, 2730, 2740	CCSRCH181J50		CN101 CONNECTOR		CKS4830	
C2725-2727, 2735-2737	CCSRCH390J50		CN102 31P CONNECTOR		AKM1239	
C2728, 2729, 2738, 2739	CCSRCH331J50		CN103 40P CONNECTOR PBF		AKM1353	
C2741, 2751 (0.22 μF/250 V)	ACG1125		CN104 20P FFC CONNECTOR		AKM1235	
C2743, 2753	CKSRYB105K6R3		CN106 CONNECTOR		CKS4829	
C2745-2747, 2755-2757	CCSRCH390J50					
C2748, 2749, 2758, 2759	CCSRCH331J50					
C2750, 2760	CCSRCH181J50					
42 SCAN B ASSY			RESISTORS			
SEMICONDUCTORS			R101		RAB4C0R0J	
IC2801-2806	SN755870KPZT-P		R104		RAB4C220J	
IC2807	TC7SH08FUS1		R105-109,113-115		RAB4C470J	
D2801-2807	1SS355		R110-112,116		RAB4C103J	B
			R117,119,175,185		RS1/16SS472J	
			R118,176		RS1/16SS0R0J	
			R121,138,141,142		RS1/16SS101J	
			R150,157,158,194		RS1/16SS103J	
			R151,155		RS1/16SS101J	
			R182		RS1/16SS105J	
			R184		RS1/16SS331J	
			R206		RS1/16SS103J	
MISCELLANEOUS			CAPACITORS			
CN2801	AKP1261		C103		CCSSCH100D50	C
CN2802	AKM1274		C104		CCSSCH120J50	
			C105-107		CKSSYF104Z16	
			C108,112		CKSSYB472K16	
			C109-111,113		CKSSYB102K50	
			C114-121		ACH1369	
			C122-124,126,127		CKSRYF104Z16	
			C125,128,130-132		CKSRYF103Z50	
			C129,133-135,138		CKSRYF104Z16	
			C136,137,140,142		CKSRYF103Z50	
			C139,141,143		CKSRYF104Z16	D
			C144,148,149		CKSRYF103Z50	
			C145-147,150-155		CKSRYF104Z16	
			RESISTORS			
			Other Resistors		RS1/16S###J	
CAPACITORS						
C2801, 2811, 2821, 2831 (0.22 μF/250 V)	ACG1125					
C2803, 2813, 2823, 2833	CKSRYB105K6R3					
C2805-2807, 2815-2817	CCSRCH390J50					
C2808, 2809, 2818, 2819	CCSRCH331J50					
C2810, 2820, 2830, 2840	CCSRCH181J50					
C2825-2827, 2835-2837	CCSRCH390J50					
C2828, 2829, 2838, 2839	CCSRCH331J50					
C2841, 2851 (0.22 μF/250 V)	ACG1125					
C2843, 2853, 2861	CKSRYB105K6R3					
C2845-2847, 2855-2857	CCSRCH390J50					
C2848, 2849, 2858, 2859	CCSRCH331J50					
C2850, 2860	CCSRCH181J50					
INTERFACE ASSY						
SEMICONDUCTORS						
IC101,102	PST3628UR					
IC103-106	TC74VCX541FT					
IC107	TC74VHC08FTS1					
IC109,112	TC7SZ00FU					
IC110	TC7SH08FUS1					
IC111	DS90CF388VJD					
IC113	AGC1025					
Q101	RN1901					
D101	SML-310MT					F
D102	SML-310LT					

5		6		7		8	
Mark No.	Description	Part No.	Mark No.	Description	Part No.		
<u>CAPACITORS</u>							
C3301–3303, 3306, 3308		CKSSYB104K10	IC1001		TC74ACT541FT		
C3304, 3307, 3309		CKSSYB472K16	IC1002		TC74VHC00FTS1		
C3305, 3310		CKSSYB102K50	D1001–1004		1SS355		A
C3311		CCSRCH470J50		<u>MISCELLANEOUS</u>			
C3315, 3316		CKSSYB104K10	K1004, 1007 TEST PIN		AKX1061		
			CN1001 18P CONNECTOR		VKN1310		
C3317		CCSRCH471J50		<u>RESISTORS</u>			
			R1001, 1006		RAB4C470J		
			R1004		RAB4C472J		
			VR1001		CCP1390		
			Other Resistors		RS1/16S###J		
				<u>CAPACITORS</u>			
			C1001		CEHAT470M16		B
			C1002, 1003		CKSRYB104K16		
			C1004		CCSRCH331J50		
			C1006		CCSRCH680J50		
				[50X RESONANCE BLCOK]			
				<u>SEMICONDUCTORS</u>			
			IC1101, 1105		TND307TD		
			IC1102		PS9117P		
			IC1104		AXF1163		
			IC1107		PS2701A-1(L)		C
			Q1101		2SC2412K		
			Q1102, 1103		QSZ2		
			Q1104, 1105		2SC4081		
			D1101, 1103		UDZS5R6(B)		
			D1102		CRH01		
			D1104		UDZS15(B)		
				<u>MISCELLANEOUS</u>			
			L1101		ATH1217		
			L1106		ATH1216		
			F1101		CTF1449		
			1101		ANH1653		
			1102		AEH1092		D
			1103		BMZ30P080FTC		
				<u>RESISTORS</u>			
			R1107, 1108		RS3LMF100J		
			R1109, 1110		RS1/10S4702F		
			R1113		RS1/16S1002F		
			R1114		RS1/16S3302F		
			R1115		ACN1259		
			R1119		ACN1258		
			R1121		RS1/16S4701F		E
			Other Resistors		RS1/16S###J		
				<u>CAPACITORS</u>			
			C1101, 1114		CEHAT470M25		
			C1102, 1115		CKSRYF104Z50		
			C1103		CKSRYB104K16		
			C1104, 1117		CKSYB105K25		
			C1107, 1116		ACG1126		
			C1113		ACH1450		
			C1121–1124		ACE1178		
				[50X SUS BLOCK]			F
				<u>SEMICONDUCTORS</u>			
			IC1201, 1204, 1206, 1208		TND307TD		

Mark No. Description**Part No.**

IC1202, 1205
IC1209
Q1201, 1208
Q1202, 1204, 1205, 1207

PS9117P
MM1565AF
2SC2412K
H5N2512LS

Q1209, 1212–1214
Q1210, 1211
Q1215, 1221
Q1216
Q1217

QSZ2
FKP280AS
FKP300AS
DTC143EK
DTC123TKA

Q1220
D1201, 1205
D1202, 1203, 1206, 1211
D1204
D1208

R5009ANJ
UDZS5R6(B)
CRH01
D1FL40
1SS302

D1209
D1210
D1212
D1213

UDZS16(B)
1SS355
CRH01
UDZS8R2(B)

MISCELLANEOUS

L1201, 1203, 1204
L1202
F1227
K1202 TEST PIN
KN1201–1204, 1210–1217

BTH1134
ATH1186
CTF1449
AKX1061
ANK1841

CN1201 14P CONNECTOR
CN1204 8P TOP POST
1202 SCREW

14PL-FJ
B8B-EH
PMB30P080FNI

RESISTORS

R1208, 1210, 1213, 1215
R1211
R1219, 1228, 1230, 1231
R1220, 1224, 1233, 1256
R1237

RS1/10S100J
ACN1254
RS1/10S0R0J
RS1/10S2R2J
RS1/10S0R0J

R1239
R1245
R1247, 1248
Other Resistors

ACN1258
ACN1257
RS3LMF470J
RS1/16S###J

CAPACITORS

C1201, 1212
C1202, 1209, 1232, 1236
C1203, 1208, 1215, 1229
C1205, 1206, 1217, 1218
C1207, 1214, 1220, 1226

ACG1126
CKSRYB104K16
CKSRYF104Z50
ACG1139
CEHAT470M25

C1210, 1211, 1216, 1241
C1213
C1222, 1223
C1224, 1225
C1228

CKSYB105K25
CCSRCH221J50
ACH1423
ACE1178
CEHAT2R2M2E

C1230
C1231, 1237
C1233
C1234
C1235

ACH1449
CEHAT101M10
CKSRYB473K16
CEHAT470M16
CKSRYB105K6R3

C1244

CKSRYB104K25

**[DRIVE HEAT SINK M]
MISCELLANEOUS**

3001, 3001
3001

ANH1656
ANH1656

Mark No. Description**Part No.**

3101, 3101
3101

ANG2679
ANG2679

**[50X D-D CON BLOCK]
SEMICONDUCTORS**

IC1301
IC1302
Q1301
Q1303, 1306, 1307
Q1304, 1401

PS2701A-1(L)
TA76431FR
2SC2412K
HN1C01FU
2SD1898

Q1305
Q1402
D1307
D1308, 1403
D1309, 1311, 1401, 1405

2SA1037K
2SC4081
CRF03
UDZS5R1(B)
CRH01

D1312, 1402
D1313, 1318, 1404, 1406
D1315, 1316

1SS301
1SS355
UDZS4R7(B)

MISCELLANEOUS

T1302
T1401

ATK1160
ATK1159

RESISTORS

R1312–1314, 1317
R1328
VR1301
Other Resistors

RS1/10S224J
RAB4C472J
CCP1392
RS1/16S###J

CAPACITORS

C1301, 1302, 1405, 1406
C1308, 1401, 1407
C1310, 1313, 1402
C1311
C1312, 1403

CKSRYB104K16
CEHAT101M25
CKSYB105K25
ACH1451
CKSRYB103K50

C1314
C1404

CEHAT100M50
ACG1105

50 X SUB DRIVE ASSY**SEMICONDUCTORS**

Q1501
Q1502
Q1504, 1505
Q1507
D1501

FKP280AS
FKP300AS
H5N2512LS
QSZ2
CRH01

MISCELLANEOUS

K1501 TEST PIN
KN1501–1505 GROUND PLATE
CN1501 14P CONNECTOR
1502 SCREW

AKX1061
ANK1841
14R-FJ
PMB30P080FNI

RESISTORS

R1502, 1503
R1507, 1508
Other Resistors

RS1/10S2R2J
RS1/10S100J
RS1/16S###J

CAPACITORS

C1501
C1503, 1504
C1505
C1506

ACE1178
ACG1139
ACH1423
CKSYB105K25

[DRIVE HEAT SINK M]

5	6	7	8		
Mark No.	Description	Part No.	Mark No.	Description	Part No.
MISCELLANEOUS			CAPACITORS		
3001, 3001		ANH1656	C2101, 2114		CEHAT470M25
3101, 3101		ANG2679	C2102, 2115		CKSRYF104Z50
RESISTORS			C2103		CKSRYB104K16
Other Resistors		RS1/16S###J	C2104, 2116		CKSYB105K25
50 Y MAIN DRIVE ASSY			C2107		ACG1139
[50Y LOGIC BLOCK]			C2108-2111		ACE1178
SEMICONDUCTORS			C2113		ACH1450
IC2001, 2003		TC74ACT541FT	C2117		ACG1138
IC2002		TC74ACT540FT	[50Y SUS BLOCK]		
D2001, 2006, 2007, 2011		1SS355	SEMICONDUCTORS		
D2003-2005		1SS301	IC2201, 2203, 2205, 2208		TND307TD
D2012		1SS355	IC2204, 2209		PS9117P
MISCELLANEOUS			IC2210		TND307TD
K2011, 2014 TEST PIN		AKX1061	IC2212		TND301S
CN2001 40P CONNECTOR		AKM1348	IC2213		MM1565AF
RESISTORS			Q2201		2SA2142
R2001, 2003, 2008, 2020		RAB4C470J	Q2202, 2214		2SC4081
R2002, 2006		RAB4C101J	Q2203		R5009ANJ
R2004, 2005, 2013, 2025		RAB4C472J	Q2204, 2206, 2207, 2209		H5N2512LS
VR2001, 2002		CCP1390	Q2210, 2216		FKP280AS
Other Resistors		RS1/16S###J	Q2211, 2213, 2217, 2219		H5N2512LS
CAPACITORS			Q2215, 2221, 2222, 2241		QSZ2
C2001		CEHAT470M16	Q2220, 2223		FKP300AS
C2002-2004		CKSRYB104K16	Q2236		2SK3050
C2005, 2006		CCSRCH331J50	Q2238		R6008ANJ
C2007		CCSRCH680J50	Q2261		DTC143EK
[50Y RESONANCE BLCOK]			Q2262		DTC123TKA
SEMICONDUCTORS			D2201, 2202, 2204, 2209		CRH01
IC2101, 2104		TND307TD	D2203, 2225		1SS355
IC2102		PS9117P	D2205, 2206		1SS302
IC2106		PS2701A-1(L)	D2207		CRF03
IC2107		AXF1163	D2208, 2212		UDZS5R6(B)
Q2101		2SC2412K	D2210, 2213, 2216		CRH01
Q2103, 2106		QSZ2	D2211		D1FL40
Q2110, 2111		2SC4081	D2219		1SS301
D2101, 2112		UDZS5R6(B)	D2220-2222, 2231, 2301		CRH01
D2107		CRH01	D2223, 2224		UDZS16(B)
D2113		UDZS15(B)	D2241		UDZS8R2(B)
MISCELLANEOUS			MISCELLANEOUS		
L2101		ATH1217	L2201, 2203, 2204		BTH1134
L2103		ATH1216	L2202		ATH1186
F2101		CTF1449	F2201-2214		ATX1062
2101		ANH1653	F2221		CTF1449
2102		AEH1092	K2202-2204 TEST PIN		AKX1061
2103 SCREW		BMZ30P080FTC	KN2201-2204, 2210-2217		ANK1841
RESISTORS			CN2202 14P CONNECTOR		14PL-FJ
R2109		ACN1259	CN2204 CONNECTOR		B9B-EH
R2112, 2133		ACN1255	2202 SCREW		PMB30P080FNI
R2113, 2114		RS1/10S4702F	RESISTORS		
R2118		ACN1241	R2201		RS3LMF821J
R2120		RS1/16S1002F	R2202, 2204		RS1/10S151J
R2121		RS1/16S3302F	R2217, 2219, 2222, 2224		RS1/10S100J
R2126		RS1/16S4701F	R2225		ACN1254
R2129		ACN1258	R2226, 2235, 2243, 2246		RS1/10S2R2J
Other Resistors		RS1/16S###J	R2228, 2230, 2236, 2238		RS1/10S100J
			R2234, 2255, 2372		RS1/10S0R0J
			R2260		ACN1257

Mark No. Description**Part No.****Mark No. Description****Part No.**R2264
R2280ACN1258
RS3LMF471J

R2413

RS1/16S1802F

A

R2281-2284
R2341, 2343
Other ResistorsACN1241
RS2LMF5R6J
RS1/16S###JR2414, 2415
R2416
R2420, 2421, 2424
R2426
VR2401RS1/16S4702F
RS1/10S0R0J
RS1/10S473J
RAB4C472J
CCP1392**CAPACITORS**C2201, 2209, 2215, 2222
C2202, 2208, 2210, 2216
C2203
C2204
C2205, 2256CEHAT470M25
CKSRYF104Z50
ACH1427
CCSRCH102J50
ACG1126VR2402
Other ResistorsCCP1390
RS1/16S###J

B

C2207, 2217, 2248, 2253
C2211, 2212, 2225, 2226
C2218, 2219, 2224, 2261
C2221
C2223, 2232CKSRYB104K16
ACG1139
CKSYB105K25
CCSRCH221J50
CKSRYF104Z50**CAPACITORS**C2401
C2402
C2403, 2404
C2405, 2407, 2412
C2408ACE1177
ACH1425
CKSRYB104K25
CKSRYB104K16
CEHAT101M16C2227, 2231
C2234, 2240
C2237, 2241
C2238, 2239
C2244CEHAT470M25
CEHAT2R2M2E
ACH1423
ACE1178
ACH1449C2409
C2410
C2411
C2413
C2421CEHAT470M25
CEHAT101M25
ACH1450
CEHAT221M16
ACH1451

C

C2246
C2247, 2252
C2249
C2250
C2251ACH1426
CEHAT101M10
CKSRYB473K16
CEHAT470M16
CKSRYB105K6R3**[50Y D-D CON BLOCK]
SEMICONDUCTORS**IC2501, 2502, 2504
IC2503
IC2506, 2514
Q2501, 2506, 2511
Q2502, 2507PS2701A-1(L)
BA10358F
TA76431FR
2SD1898
2SA1576A

C2271, 2276

CKSRYB104K25

Q2503, 2515
Q2504, 2509, 2513
Q2505
Q2508
Q2510DTC143EUA
HN1C01FU
2SC2713
2SA2005
2SA1163**[DRIVE HEAT SINK M]
MISCELLANEOUS**3001, 3001
3001
3101, 3101
3101ANH1656
ANH1656
ANG2679
ANG2679Q2512, 2514
Q2520
D2501, 2503, 2510, 2516
D2502, 2512, 2518
D2504, 25082SC4081
2SC2412K
CRH01
1SS301
UDZS4R7(B)

D

**[50Y VH D-D CON BLOCK]
SEMICONDUCTORS**IC2401
IC2402
IC2403
IC2405, 2412
Q2401BA10358F
MIP2E3DMU
PS2701A-1(L)
TA76431FR
2SC3425D2505, 2507, 2513, 2517
D2509
D2511
D2515, 2521
D2519, 2520, 25231SS355
D1FL40
1SS302
UDZS5R1(B)
1SS355Q2402
Q2403
Q2404
D2402, 2407
D24032SD2568
2SC4081
HN1C01FU
CRF03
UDZS33(B)D2522
D2524UDZS5R6(B)
UDZS15(B)

E

D2404
D2406, 2410
D2408, 2409
D24111SS355
UDZS4R7(B)
CRH01
UDZS12(B)**MISCELLANEOUS**T2501
T2502
T2503ATK1156
ATK1161
ATK1159**RESISTORS**R2510, 2514, 2539, 2543
R2513
R2523
R2524, 2531
R2530, 2532RS1/16S4701F
RAB4C472J
RS1/16S4702F
RS1/10S224J
RS1/16S1501F**MISCELLANEOUS**L2401
T2401BTH1136
ATK1158**RESISTORS**R2401, 2402
R2403, 2404, 2406
R2407, 2410
R2412RS1/10S104J
RS1/10S2203F
RS1/16S5601F
RS1/16S1003FR2533
R2536
R2544
R2550
R2554RS3LMF151J
RS1/16S1002F
RS1/16S4701F
RS1/16S5601F
RS1/16S6801F

F

5		6		7		8	
Mark No.	Description	Part No.		Mark No.	Description	Part No.	
	VR2501 Other Resistors	CCP1390 RS1/16S###J					
CAPACITORS				[DRIVE HEAT SINK M] MISCELLANEOUS			
	C2501, 2502, 2514 C2503, 2515 C2504 C2505, 2506, 2512 C2507	CEHAT101M25 ACG1105 CKSRYB102K50 CKSRYB104K16 CEHAT221M6R3			3001, 3001 3101, 3101	ANH1656 ANG2679	
	C2508 C2509, 2510, 2518 C2511, 2516 C2513 C2517	CEHAT221M25 CKSRYB103K50 CKSRYB105K6R3 CKSYB105K25 CKSRYF104Z50		RESISTORS All Resistors		RS1/16S###J	
	C2519–2521, 2525	CKSRYB104K16		50 ADDRESS L ASSY [50 ADR L LOGIC] SEMICONDUCTORS		PEE003B	
[50Y SCAN BLOCK] SEMICONDUCTORS				MISCELLANEOUS L1601 CN1601 CONNECTOR CN1602 40P CONNECTOR		QTL1013 AKM1290 AKM1348	
	IC2601–2603, 2607 IC2604–2606 IC2610, 2611	TLP116 PS9117P TC74AC540FT		RESISTORS R1601–1605 Other Resistors		RS1/16SS1000F RS1/16SS###J	
MISCELLANEOUS L2601, 2611 CN2601 15P CONNECTOR				CAPACITORS C1601–1604, 1607 C1605, 1606 C1608, 1609 C1651–1656 C1657–1662		CKSSYF104Z16 CKSSYB102K50 CKSRYB105K6R3 ACG1105 CKSSYF104Z16	
RESISTORS R2624 R2631 Other Resistors					C1664, 1666, 1668	CCSSCH390J50	
CAPACITORS C2601, 2623 C2602, 2603, 2611–2617 C2621, 2622 C2631				[50 ADR L RESONANCE] SEMICONDUCTORS IC1720 Q1710, 1711 Q1731, 1741, 1751, 1761 Q1771, 1781 Q1790		TND307TD QSZ2 HAT3041R HAT3041R 2SA1163	
50 Y SUB DRIVE ASSY SEMICONDUCTORS Q2701 Q2711 Q2721, 2723, 2725, 2726 Q2731 D2701					Q1791 D1710, 1737, 1747, 1757 D1731, 1741, 1751, 1761 D1734, 1744, 1754, 1764 D1736, 1738, 1746, 1748	RN1901 1SS302 UDZS15(B) EP05FA20 1SS355	
MISCELLANEOUS F2701–2706 K2701 TEST PIN KN2701, 2702, 2711–2713 CN2701 14P CONNECTOR 2702 SCREW					D1756, 1758, 1766, 1768 D1767, 1777, 1787 D1771, 1781 D1774, 1784 D1776, 1778, 1786, 1788	1SS355 1SS302 UDZS15(B) EP05FA20 1SS355	
RESISTORS R2702, 2712 R2722, 2724, 2726, 2727 R2732 Other Resistors				MISCELLANEOUS L1730, 1740, 1750, 1760 L1770, 1780		ATH1199 ATH1199	
CAPACITORS C2701 C2702 C2703 C2711, 2721 C2731				RESISTORS R1710, 1711 Other Resistors		RS1/16SS220J RS1/16S###J	
		ACE1178 ACH1423 ACG1088 ACG1139 CKSYB105K25		CAPACITORS C1710 C1711 C1730, 1740, 1750, 1760 C1731, 1741, 1751, 1761 C1770, 1780		CKSYB105K25 ACG1098 ACG1137 ACG1136 ACG1137	

	1	2	3	4		
	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
A	C1771, 1781	ACG1136	50 SCAN A ASSY			
	50 ADDRESS S ASSY		SEMICONDUCTORS			
	IC1801	PEE003B	IC2801–2806	SN755870KPZT-P		
			D2801	CRH01		
B	MISCELLANEOUS		D2802–2807, 2809, 2811	1SS302		
	L1801	QTL1013	D2810	1SS355		
	CN1801 CONNECTOR	AKM1290	MISCELLANEOUS			
	CN1802 40P CONNECTOR	AKM1348	CN2801 13P CONNECTOR NONPCB	AKP1261		
C	RESISTORS		CN2802 CONNECTOR	AKM1281		
	R1801–1805	RS1/16SS1000F	CN2803 PH CONNECTOR	AKP1306		
	Other Resistors	RS1/16SS###J	RESISTORS			
			R2805, 2810, 2813, 2816	RAB4C221J		
D	CAPACITORS		R2819, 2822	RAB4C221J		
	C1801–1804, 1807	CKSSYF104Z16	Other Resistors	RS1/16S####J		
	C1805, 1806	CKSSYB102K50	CAPACITORS			
	C1808, 1809	CKSRYB105K6R3	C2801, 2802, 2811, 2812	ACG1088		
E	C1851–1855	ACG1105	C2803, 2813, 2823, 2833	CKSRYB105K6R3		
	C1857–1861	CKSSYF104Z16	C2805–2807, 2815–2817	CCSRCH220J50		
			C2808–2810, 2818–2820	CCSRCH151J50		
			C2821, 2822, 2831, 2832	ACG1088		
F	C1864	CCSSCH390J50	C2825–2827, 2835–2837	CCSRCH220J50		
	C1866	CCSSCH101J50	C2828–2830, 2838–2840	CCSRCH151J50		
			C2841, 2842, 2851, 2852	ACG1088		
			C2843, 2853	CKSRYB105K6R3		
G	[50 ADR S RESONANCE]		C2845–2847, 2855–2857	CCSRCH220J50		
	SEMICONDUCTORS		C2848–2850, 2858–2860	CCSRCH151J50		
	IC1920	TND307TD	50 SCAN B ASSY			
	Q1910, 1911	QSZ2	SEMICONDUCTORS			
H	Q1931, 1941, 1951, 1961	HAT3041R	IC2901–2906	SN755870KPZT-P		
	Q1971	HAT3041R	IC2907	TC7SH08FUS1		
	Q1990	2SA1163	D2902–2908	1SS302		
			D2909	1SS355		
I	Q1991	RN1901	MISCELLANEOUS			
	D1910, 1937, 1947, 1957	1SS302	CN2901 CONNECTOR	AKM1281		
	D1931, 1941, 1951, 1961	UDZS15(B)	CN2902 PH CONNECTOR	AKP1306		
	D1934, 1944, 1954, 1964	EP05FA20	RESISTORS			
J	D1936, 1938, 1946, 1948	1SS355	R2903, 2908, 2911, 2914	RAB4C221J		
			R2917, 2920	RAB4C221J		
	D1956, 1958, 1966, 1968	1SS355	Other Resistors	RS1/16S####J		
	D1967, 1977	1SS302	CAPACITORS			
K	D1971	UDZS15(B)	C2901, 2902, 2911, 2912	ACG1088		
	D1974	EP05FA20	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	D1976, 1978	1SS355	C2905–2907, 2915–2917	CCSRCH220J50		
			C2908–2910, 2918–2920	CCSRCH151J50		
L	MISCELLANEOUS		C2921, 2922, 2931, 2932	ACG1088		
	L1930, 1940, 1950, 1960	ATH1199	C2925–2927, 2935–2937	CCSRCH220J50		
	L1970	ATH1199	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
M	RESISTORS		C2943, 2953, 2961	CKSRYB105K6R3		
	R1910, 1911	RS1/16SS220J	C2945–2947, 2955–2957	CCSRCH220J50		
	Other Resistors	RS1/16S####J	C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
N	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
O	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
P			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
Q	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
R	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
S			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
T	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
U	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
V			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
W	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
X	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
Y			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
Z	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AA	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
AB			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
AC	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AD	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
AE			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
AF	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AG	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
AH			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
AI	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AJ	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
AK			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
AL	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AM	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088		
			C2925–2927, 2935–2937	CCSRCH220J50		
	C1971	ACG1136	C2928–2930, 2938–2940	CCSRCH151J50		
			C2941, 2942, 2951, 2952	ACG1088		
AN			C2943, 2953, 2961	CKSRYB105K6R3		
			C2945–2947, 2955–2957	CCSRCH220J50		
			C2948–2950, 2958–2960	CCSRCH151J50		
			CAPACITORS			
AO	C1910	CKSYB105K25	C2901, 2902, 2911, 2912	ACG1088		
	C1911	ACG1098	C2903, 2913, 2923, 2933	CKSRYB105K6R3		
	C1930, 1940, 1950, 1960	ACG1137	C2905–2907, 2915–2917	CCSRCH220J50		
	C1931, 1941, 1951, 1961	ACG1136	C2908–2910, 2918–2920	CCSRCH151J50		
AP	C1970	ACG1137	C2921, 2922, 2931, 2932	ACG1088	</	

5	6	7	8
Mark No.	Description	Part No.	
INTERFACE ASSY			
SEMICONDUCTORS			
IC101,102	PST3628UR		A
IC103-106	TC74VCX541FT		
IC107	TC74VHC08FTS1		
IC109,112	TC7SZ00FU		
IC110	TC7SH08FUS1		
IC111	DS90CF388VJD		
IC113	AGC1025		
Q101	RN1901		
D101	SML-310MT		
D102	SML-310LT		
MISCELLANEOUS			
F101-103 FILETER	ATF1213		B
K101,102 TEST PIN	AKX9002		
S104,105 SLIDE SWITCH	ASH1047		
X101 XTAL RESONATOR (16 MHz)	ASS1145		
CN101 CONNECTOR	CKS4830		
CN102 31P CONNECTOR	AKM1239		
CN103 40P CONNECTOR PBF	AKM1353		
CN104 20P FFC CONNECTOR	AKM1235		
CN106 CONNECTOR	CKS4829		
RESISTORS			
R101	RAB4C0R0J		C
R104	RAB4C220J		
R105-109,113-115	RAB4C470J		
R110-112,116	RAB4C103J		
R117,119,175,185	RS1/16SS472J		
R118,176	RS1/16SS0R0J		
R121,138,141,142	RS1/16SS101J		
R150,157,158,194	RS1/16SS103J		
R151,155	RS1/16SS101J		
R182	RS1/16SS105J		
R184	RS1/16SS331J		
R206	RS1/16SS103J		D
CAPACITORS			
C103	CCSSCH100D50		
C104	CCSSCH120J50		
C105-107	CKSSYF104Z16		
C108,112	CKSSYB472K16		
C109-111,113	CKSSYB102K50		
C114-121	ACH1369		
C122-124,126,127	CKSRYF104Z16		
C125,128,130-132	CKSRYF103Z50		
C129,133-135,138	CKSRYF104Z16		
C136,137,140,142	CKSRYF103Z50		E
C139,141,143	CKSRYF104Z16		
C144,148,149	CKSRYF103Z50		
C145-147,150-155	CKSRYF104Z16		
RESISTORS			
Other Resistors	RS1/16S###J		

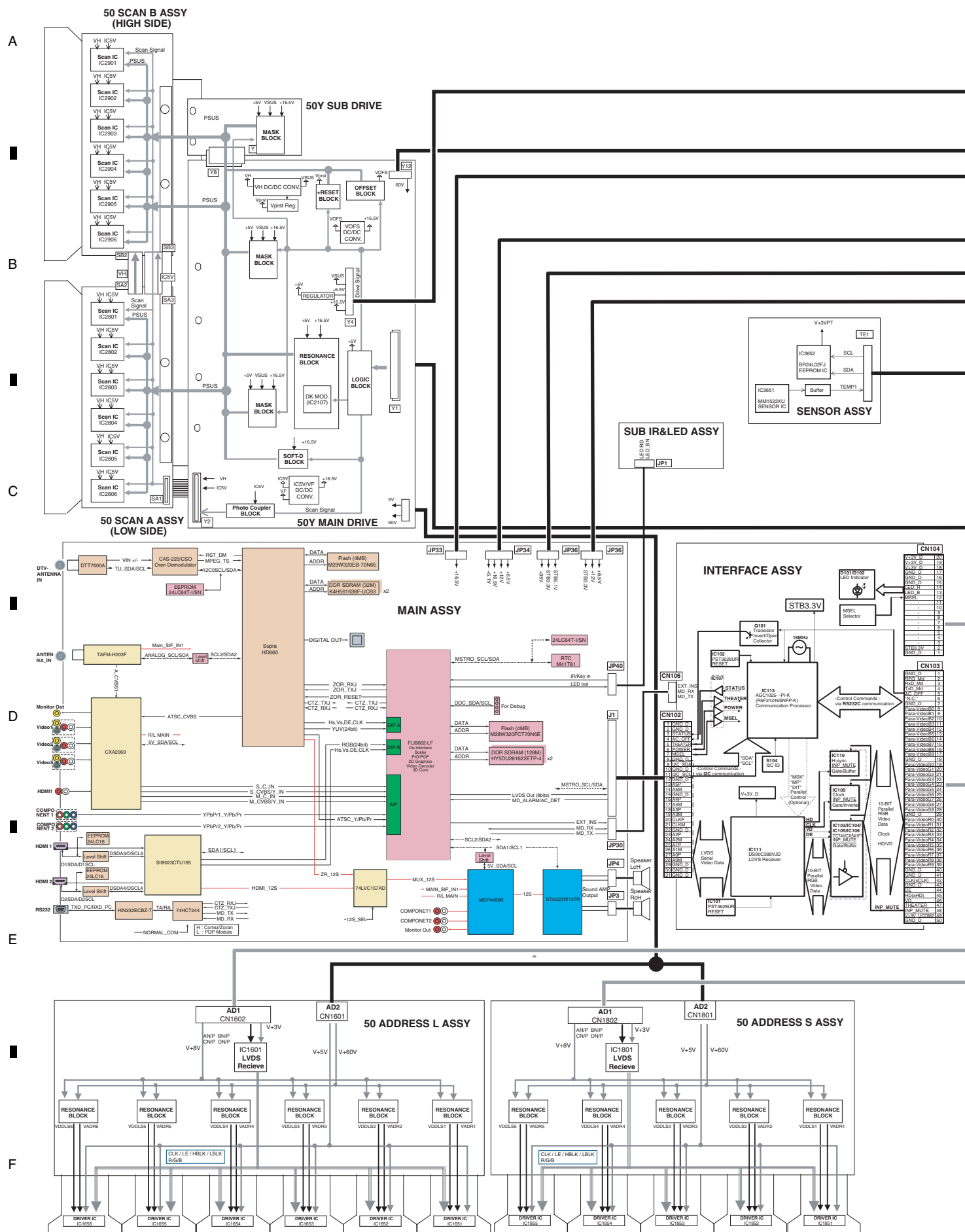


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3.3 OVERALL BLOCK DIAGRAM (PDP-5016HD)





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1 2 3 4

3.5 42 ADDRESS ASSY (PDP-4216HD)

A

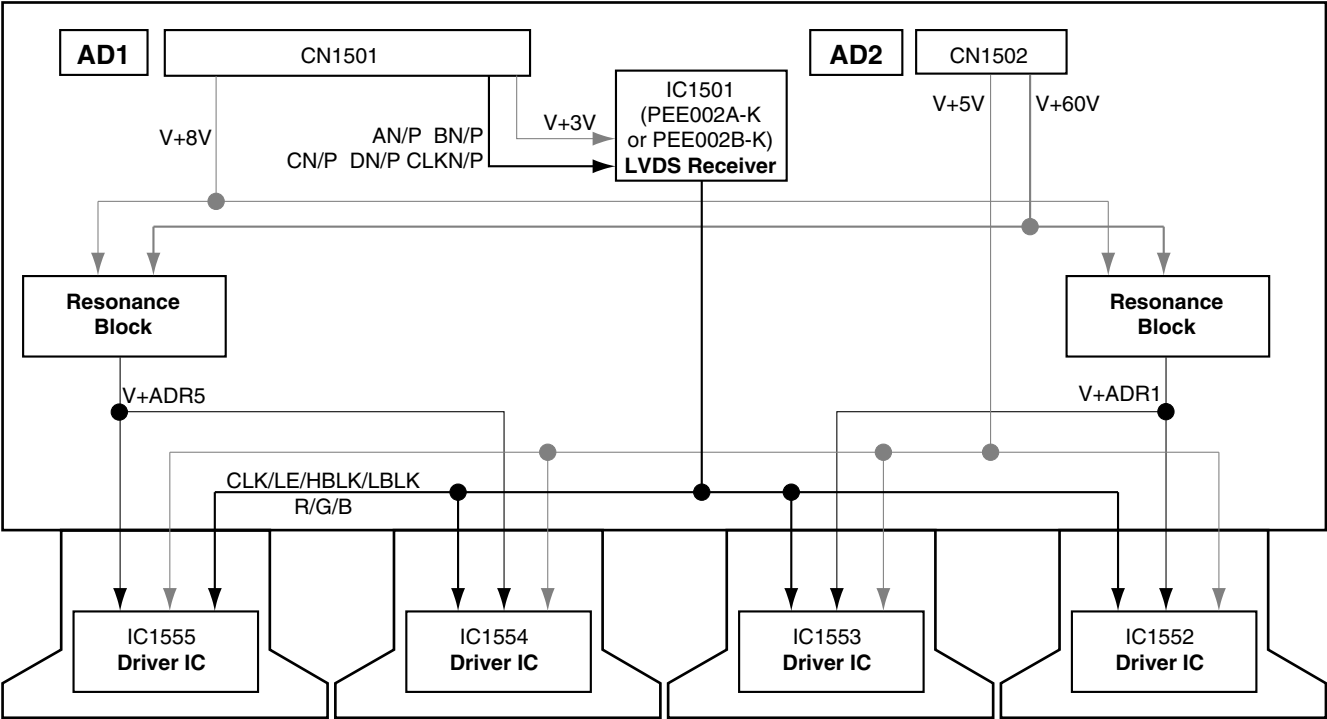
B

C

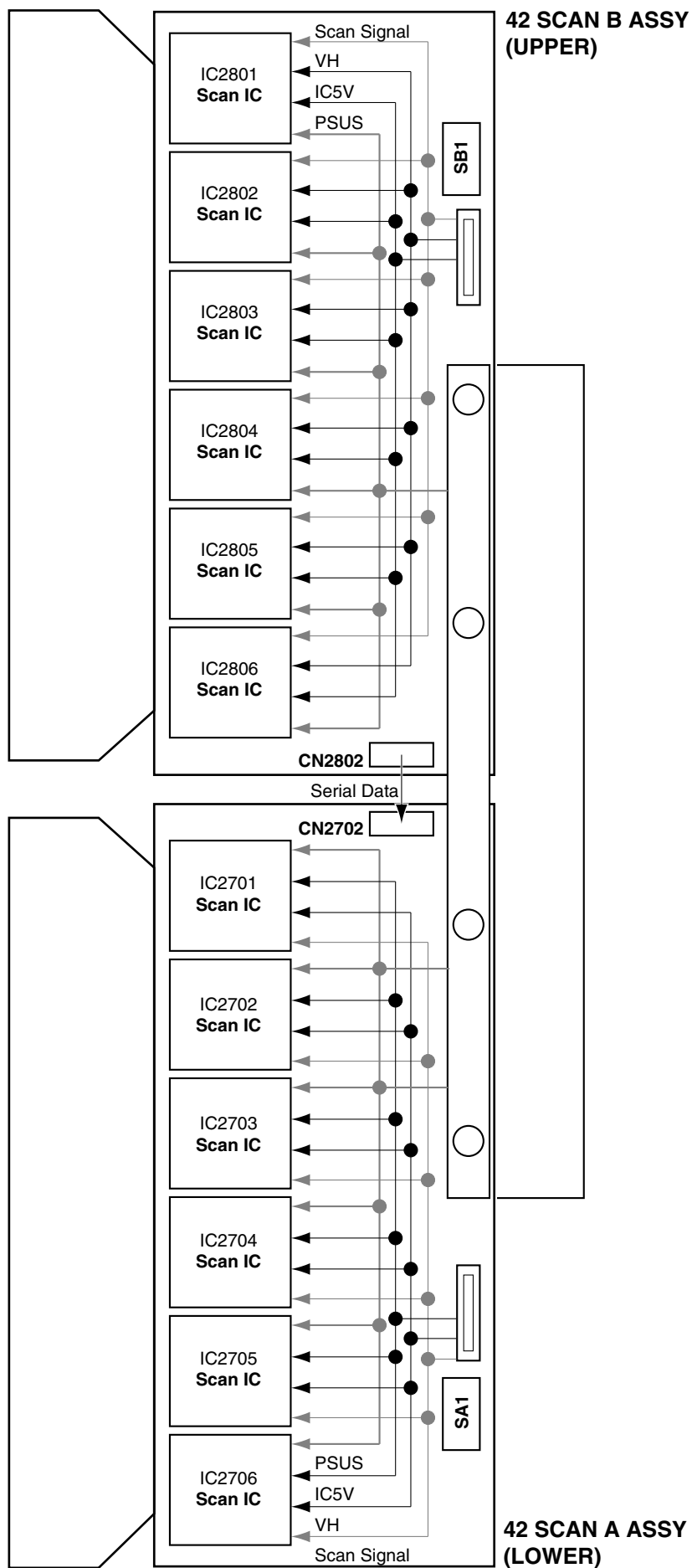
D

E

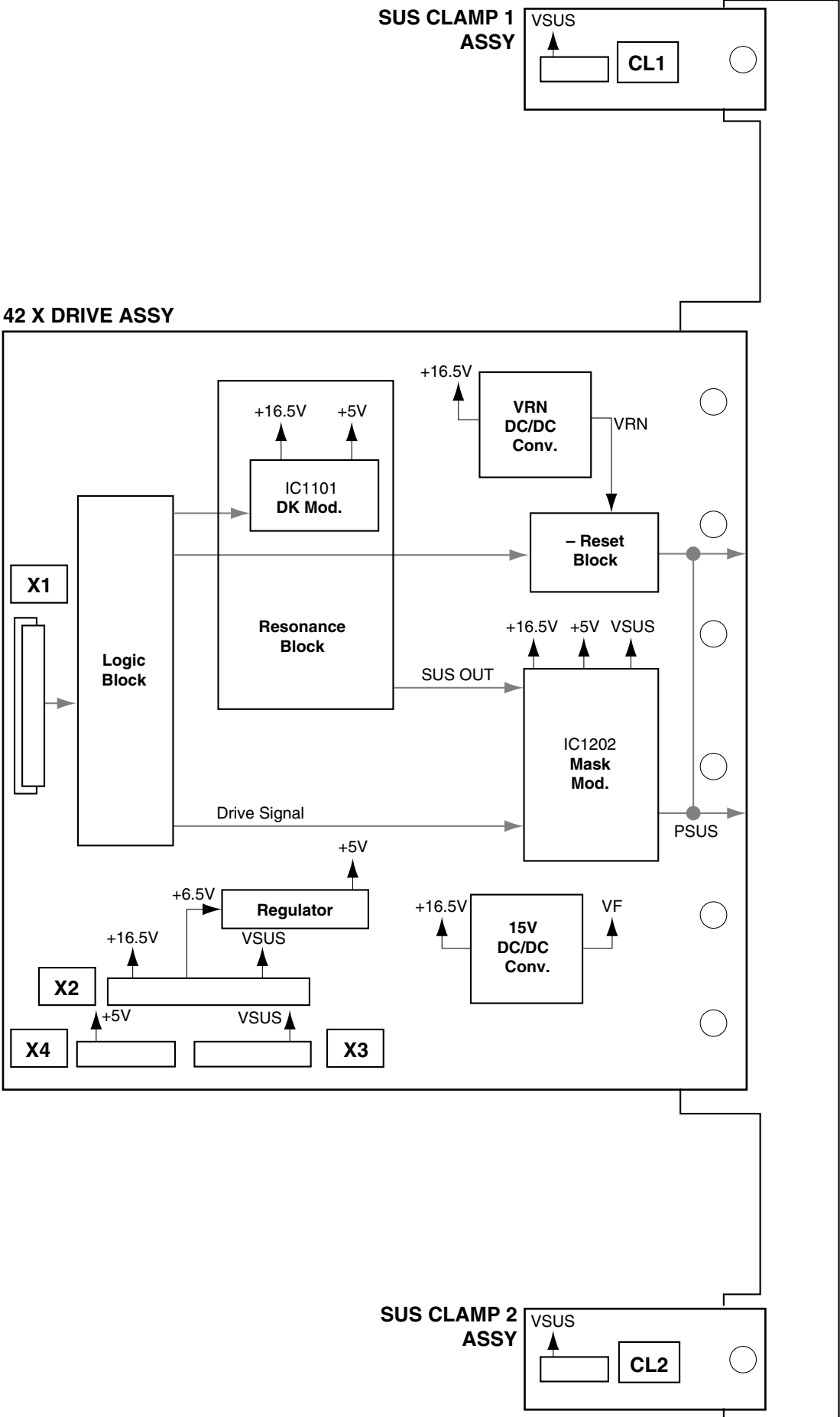
F



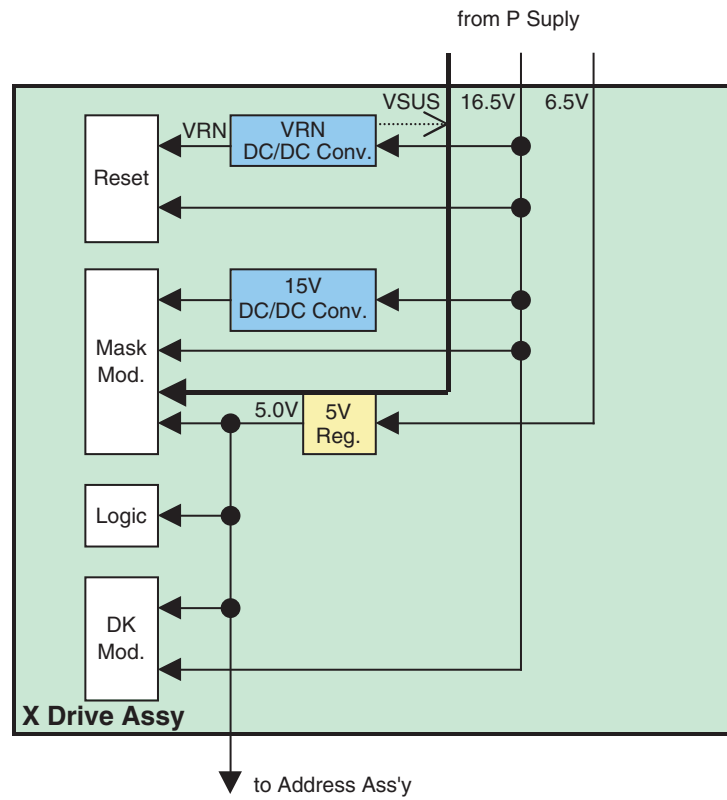
3.6 42 SCAN A and B ASSYS (PDP-4216HD)



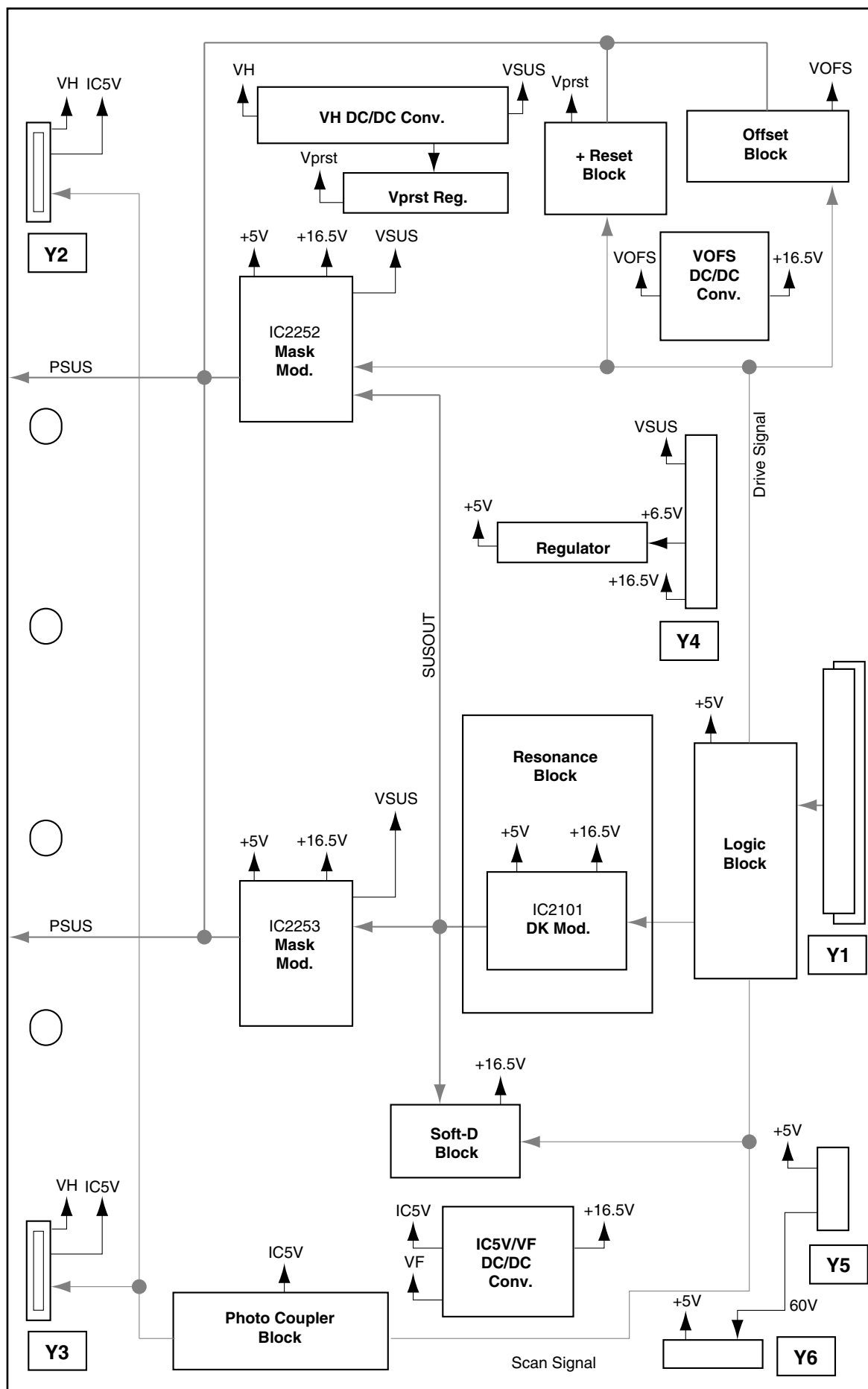
3.7 42 X DRIVE, SUS CLAMP 1 and SUS CLAMP 2 ASSYS (PDP-4216HD)



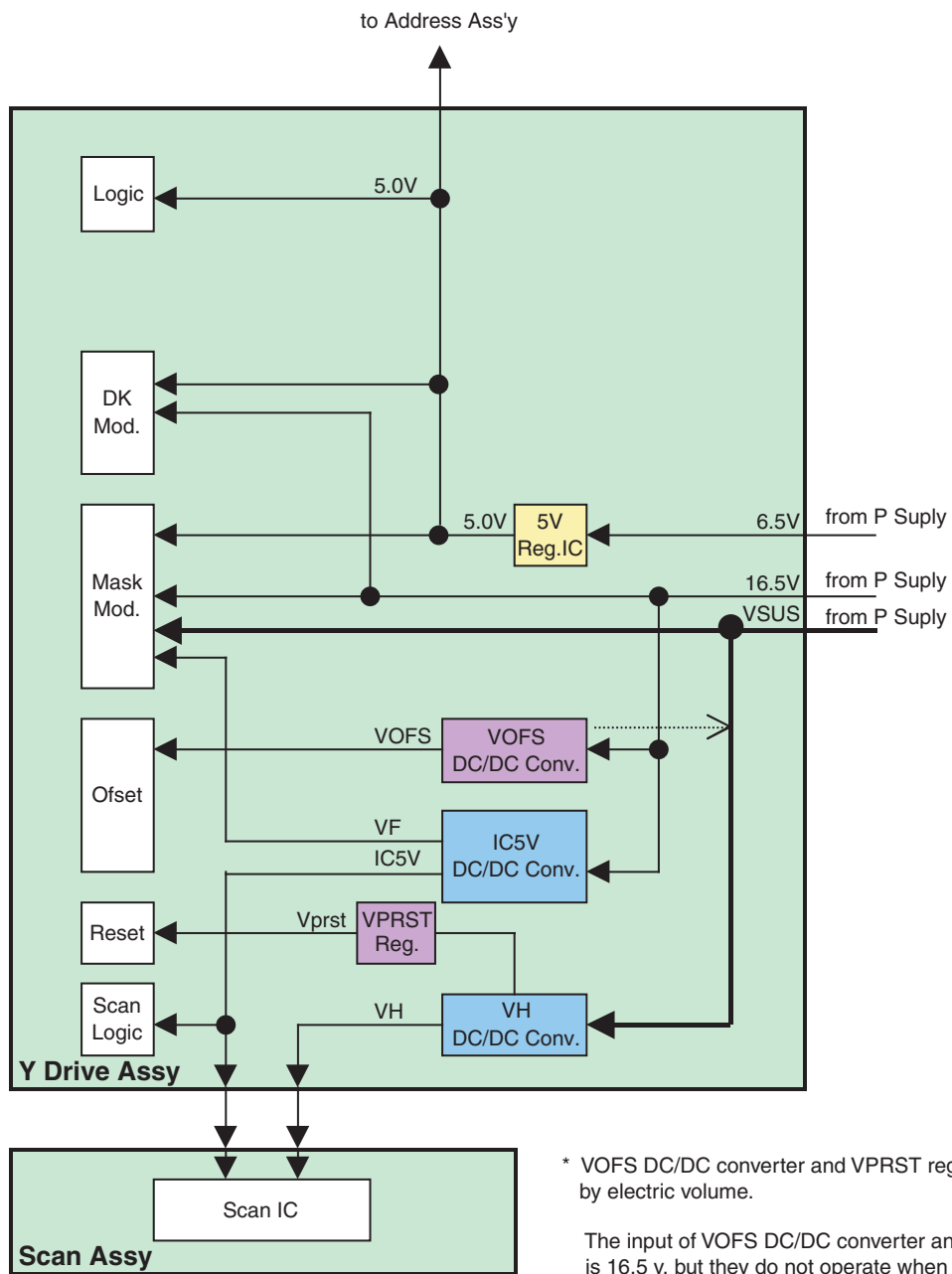
- X Drive power supply map



3.8 42 Y DRIVE ASSY (PDP-4216HD)

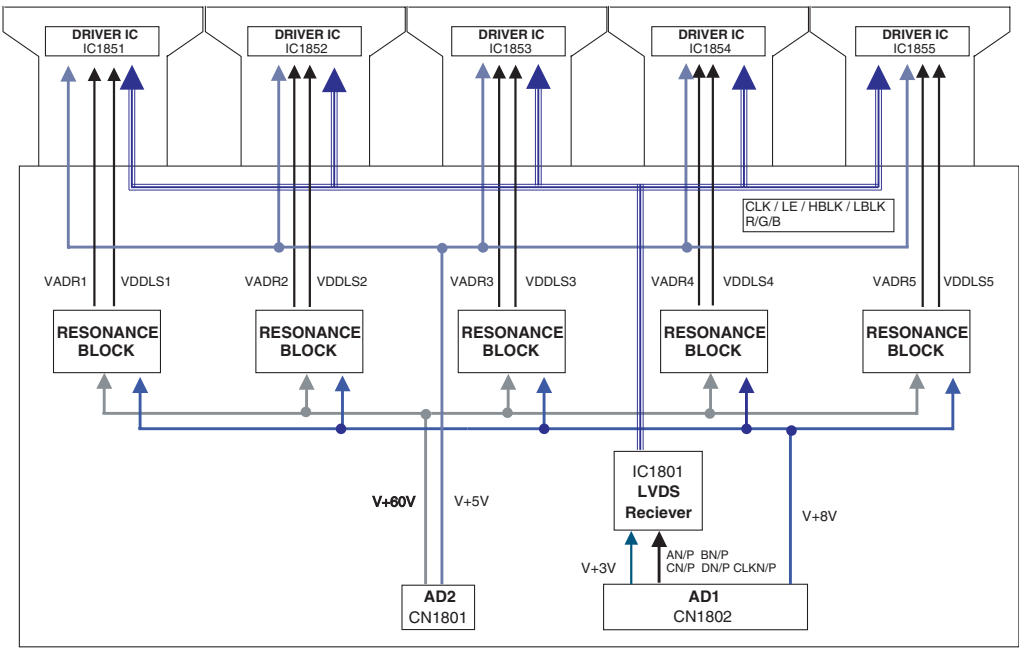


•Y Drive power supply map

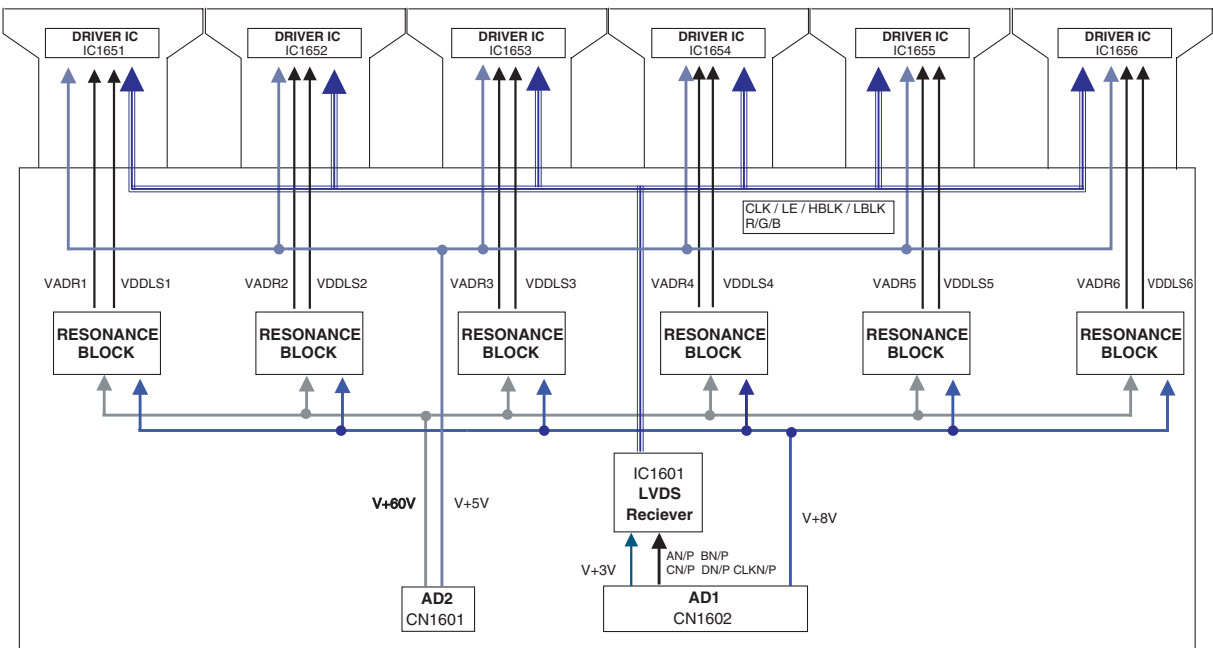


3.9 50 ADDRESS S and L ASSYS (PDP-5016HD)

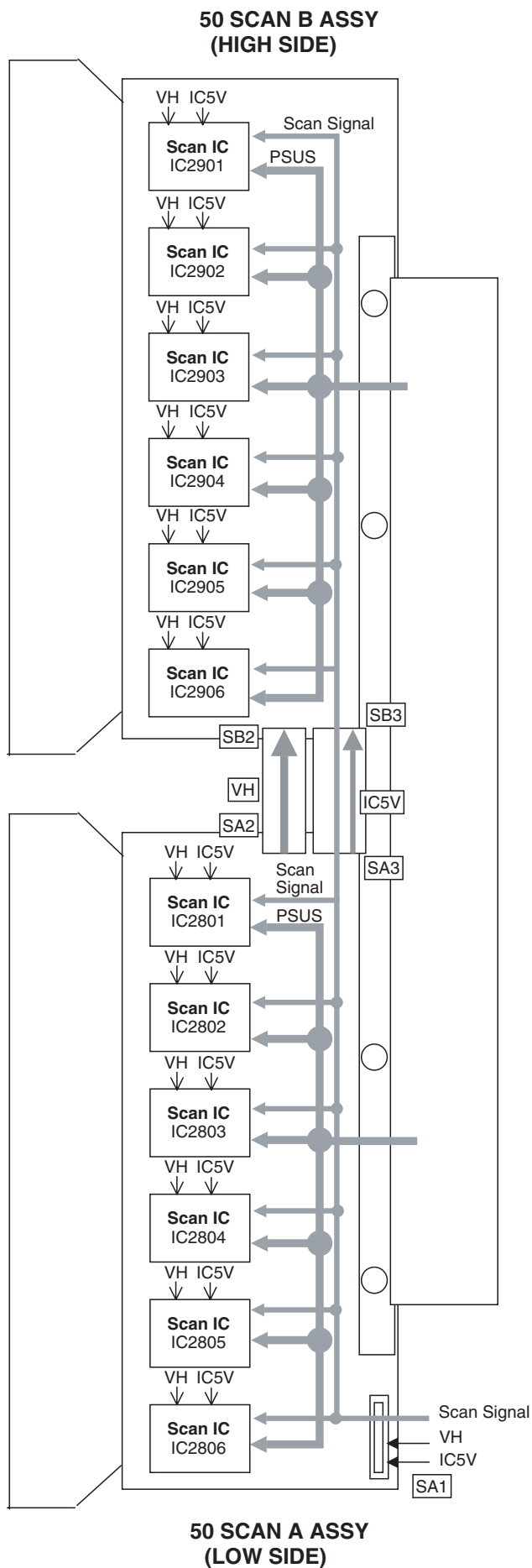
50 ADDRESS S ASS'Y



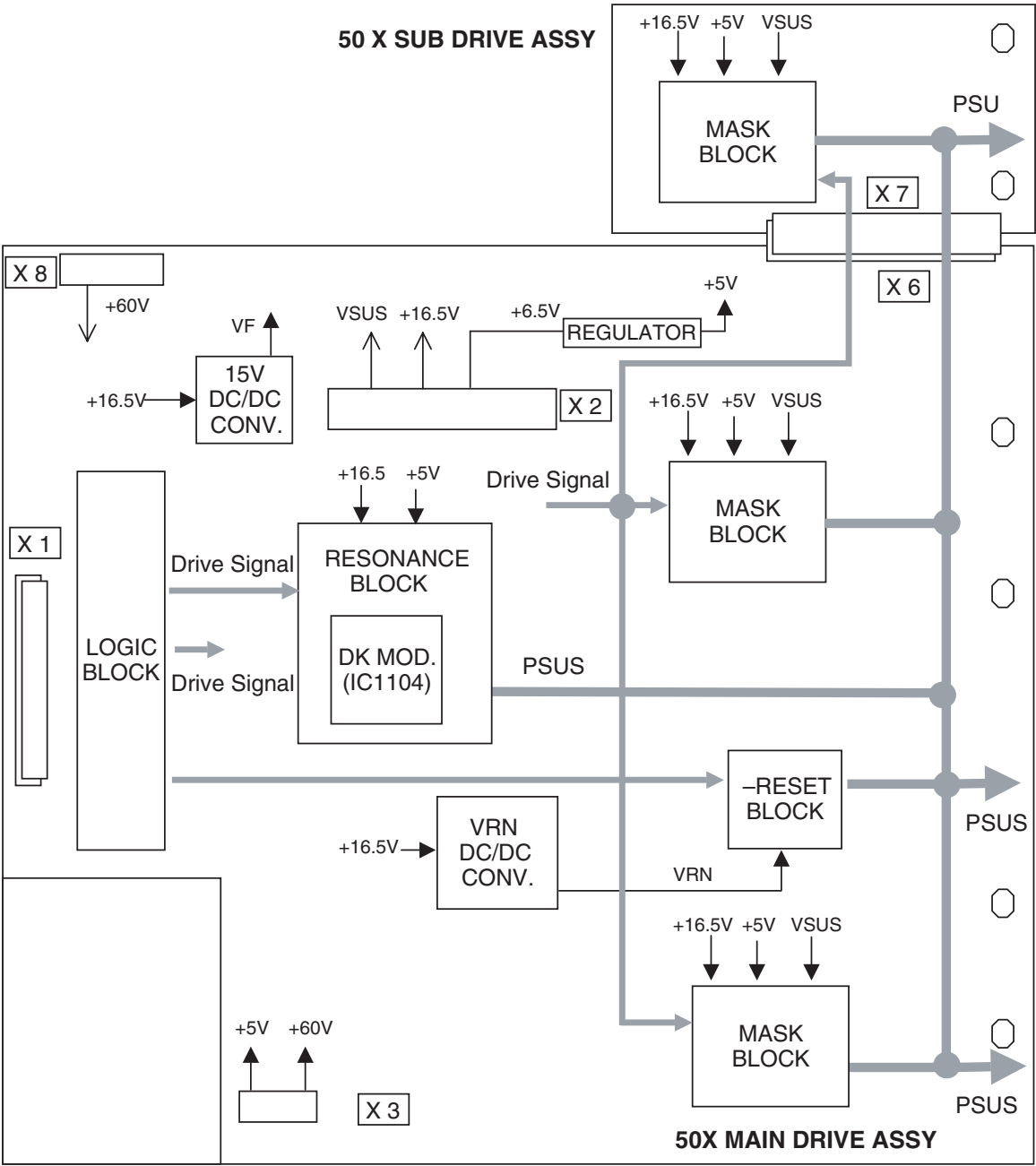
50 ADDRESS L ASS'Y



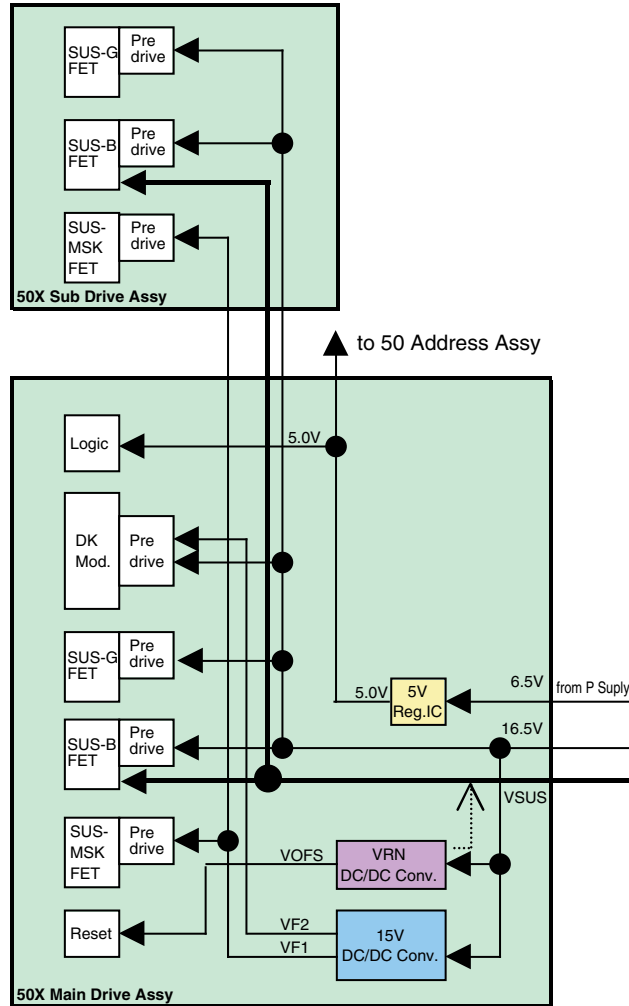
3.10 50 SCAN A and B ASSYS (PDP-5016HD)



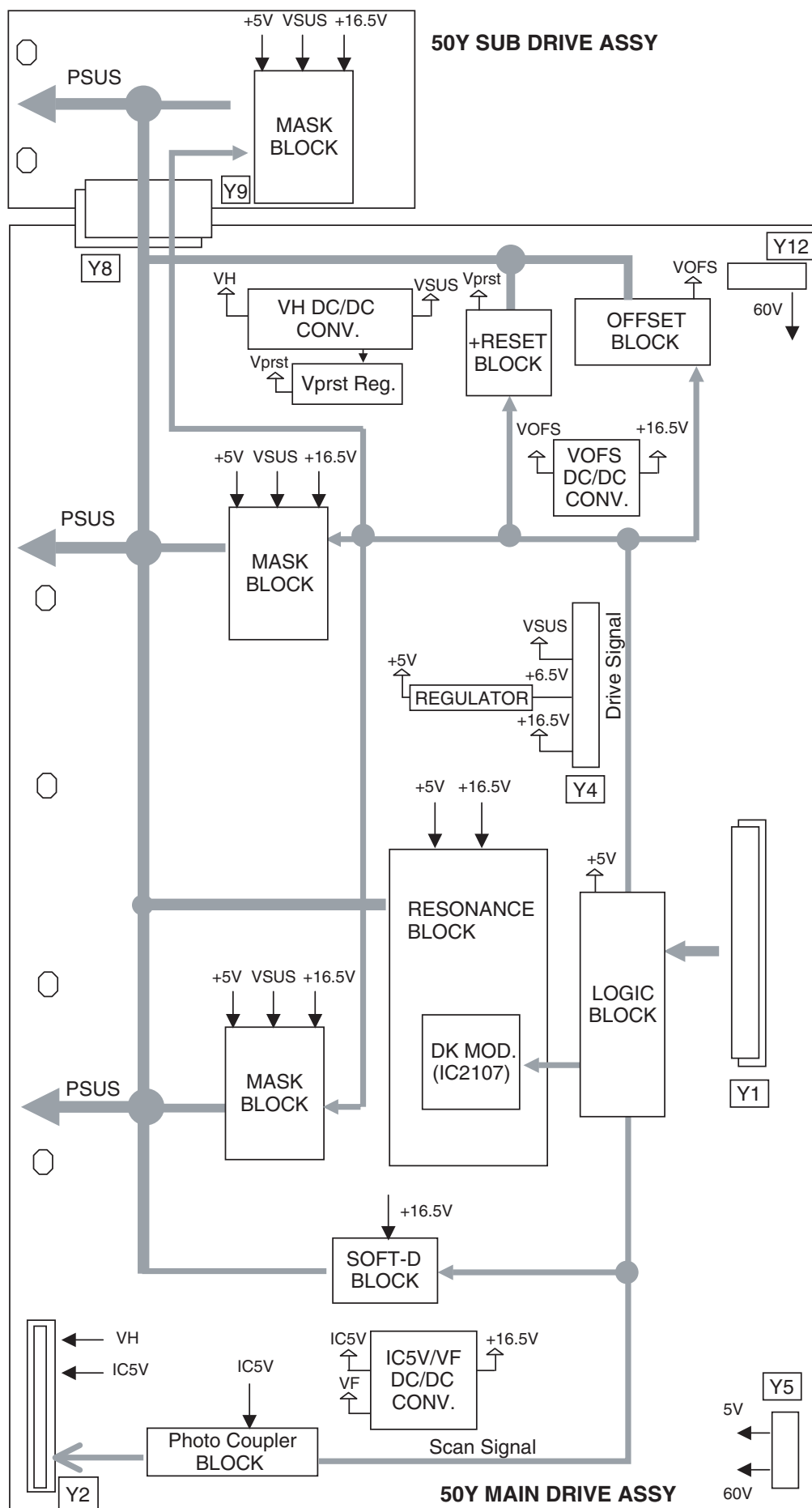
3.11 50X MAIN DRIVE and 50X SUB DRIVE ASSYS (PDP-5016HD)



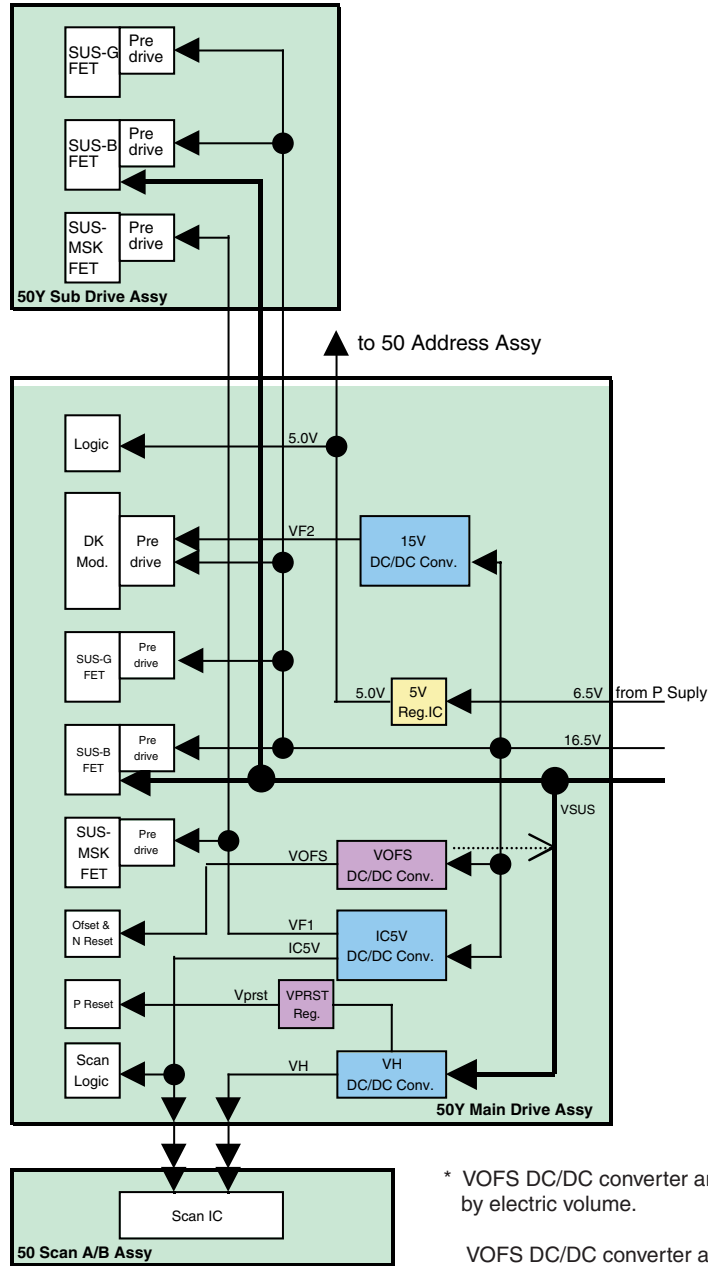
• 50 X Drive power supply map



3.12 50Y MAIN DRIVE and 50Y SUB DRIVE ASSYS (PDP-5016HD)



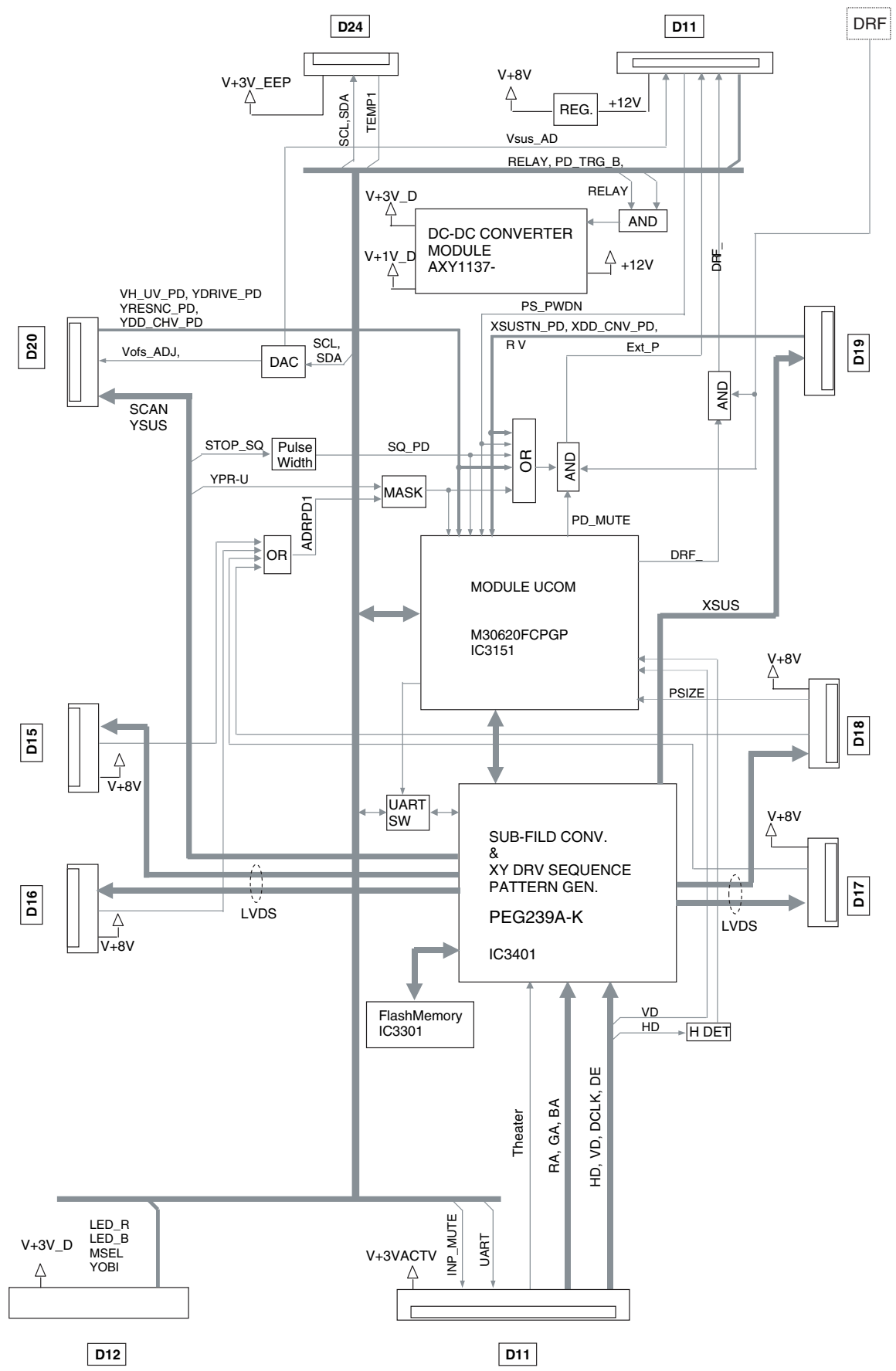
• 50 Y Drive power supply map



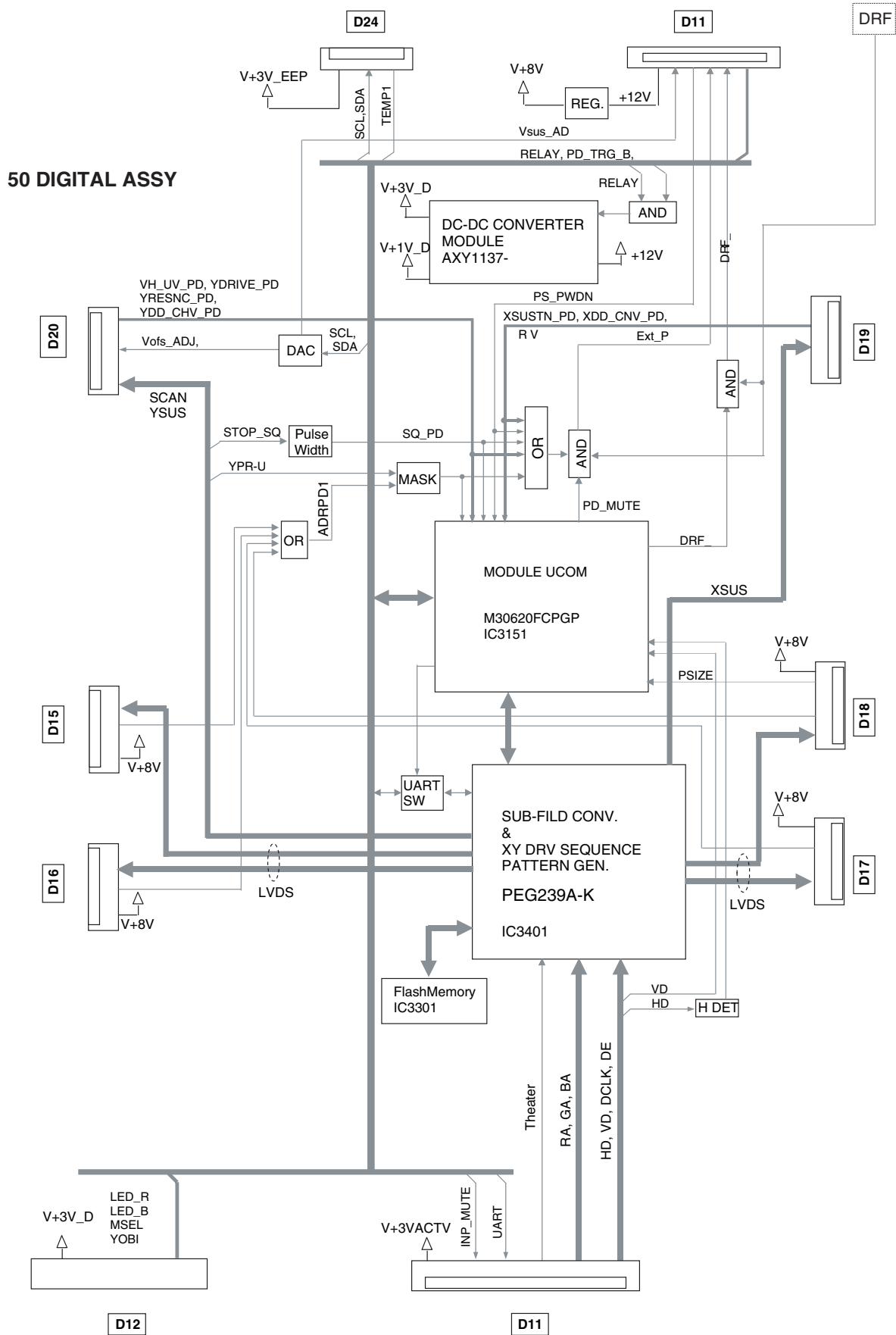
* VOFS DC/DC converter and VPRST regulator are controlled by electric volume.

VOFS DC/DC converter and VRN DC/DC converter are generated from 16.5 v, but they do not operate when Vsus is under 100V.

3.13 42 DIGITAL ASSY (PDP-4216HD)



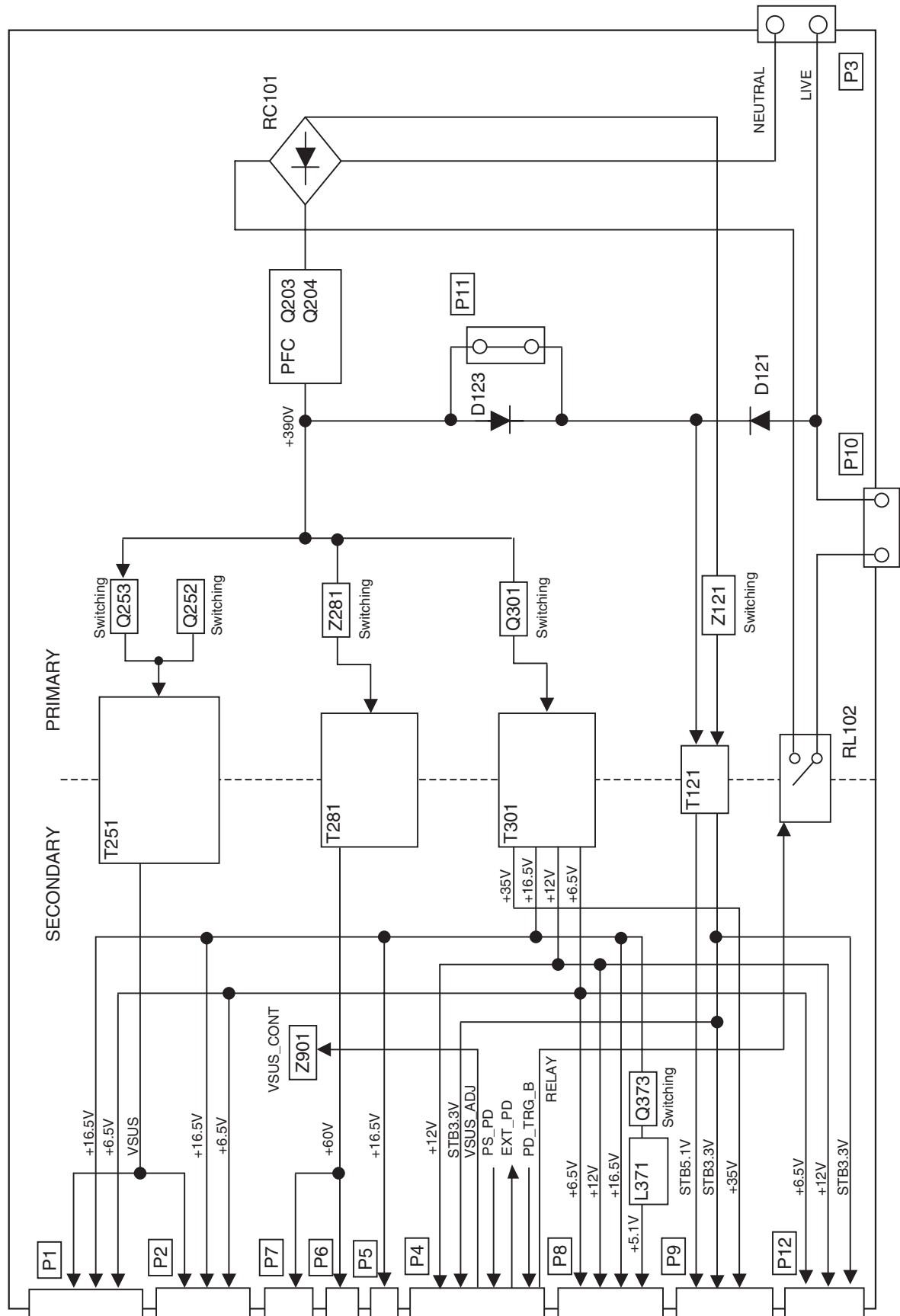
3.14 50 DIGITAL ASSY (PDP-5016HD)



△

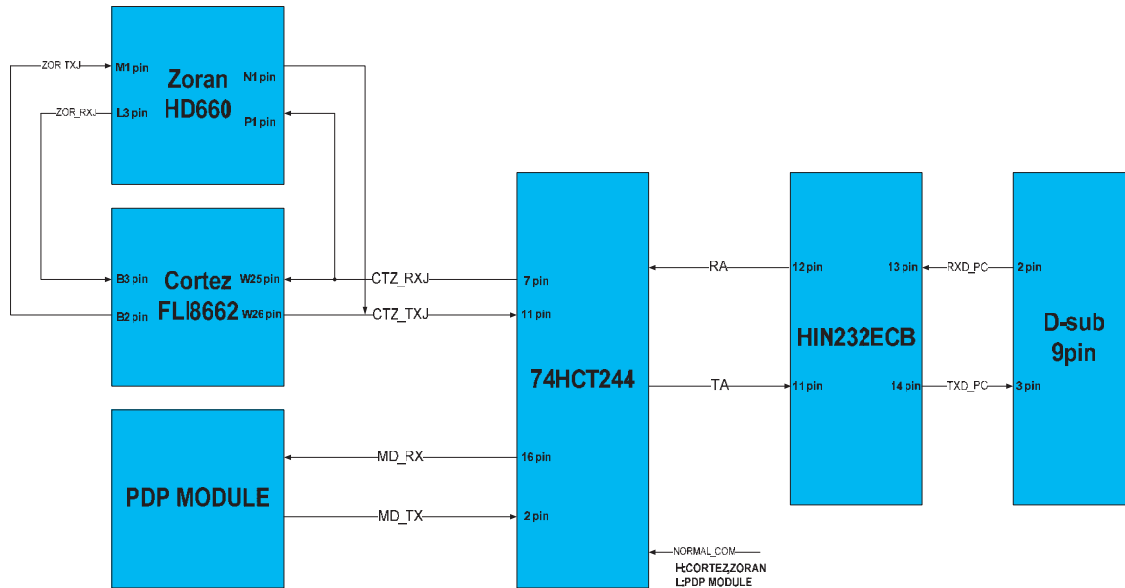


3.16 POWER SUPPLY ASSY



4





• PIP Combinations

	DIGITAL CH (ATSC)	ANALOG CH (ATSC)	HDMI 1 HDMI 2	COMPONENT 1 COMPONENT 2	VIDEO 1 VIDEO 2 VIDEO 3
DIGITAL CH (ATSC)	X	O	O	O	O
ANALOG CH (NTSC)	O	X	O	O	O
HDMI 1 HDMI 2	O	O	X	X	X
COMPONENT 1 COMPONENT 2	O	O	X	X	X
VIDEO 1 VIDEO 2 VIDEO 3	O	O	X	X	X

△



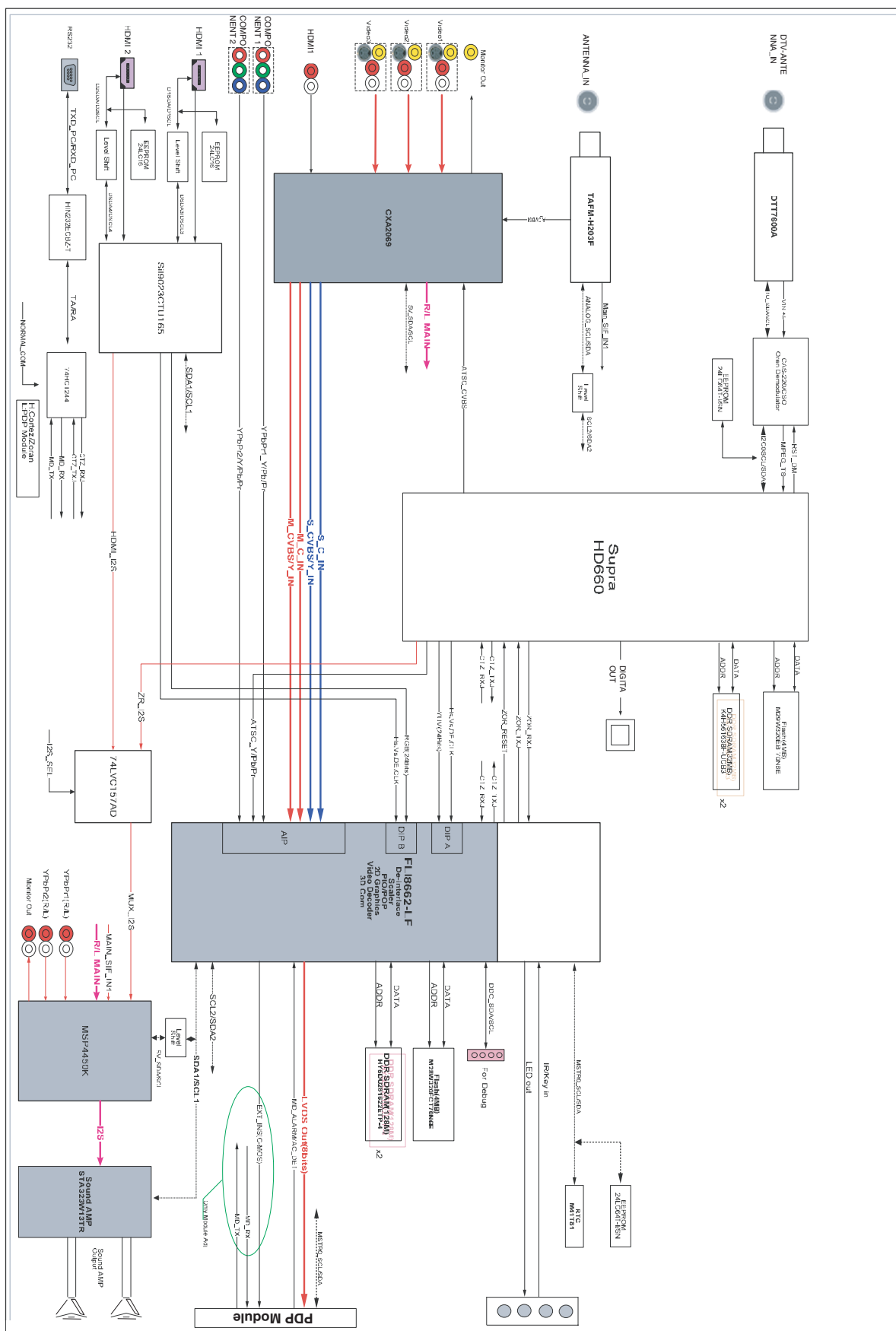
3.17.3 SIGNAL FLOW (DTV)



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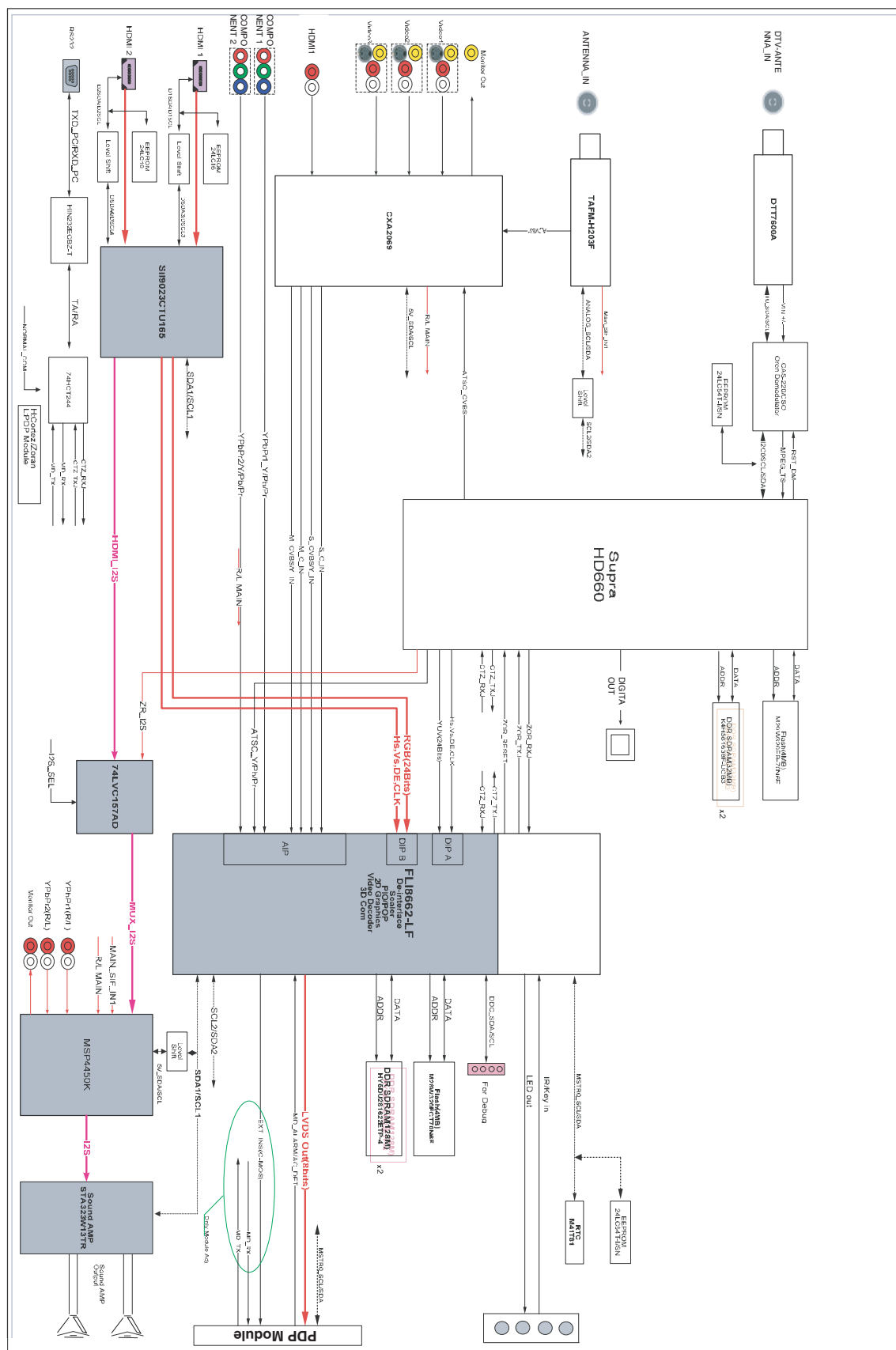
3.17.5 SIGNAL FLOW (S-VIDEO)



4



3.17.7 SIGNAL FLOW (HDMI)



3.18 VOLTAGES

3.18.1 PDP-4216HD VOLTAGES

42 DIGITAL ASSY

CN3505 (D19) ↔ 42 X DRIVE ASSY CN1001 (X1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	PSW	O	Function standby control signal	0	TP3519
2	XSUS_PD	I	X drive PD signal	0	TP3513
3	XDD_PD	I	X drive PD signal	0	TP3514
4	XDRV_PD	I	X drive PD signal	0	TP3515
5	GND	—	GND	—	—
6	XRsv1	I	X drive control signal (reserve)	—	—
7	XSUS-MSK	I	X drive control signal	0 to 3.3	—
8	GND	—	GND	—	—
9	XNR-D	O	X drive control signal	0 to 3.3	—
10	GND	—	GND	—	—
11	XSUS-G	O	X drive control signal	0 to 3.3	—
12	GND	—	GND	—	—
13	XSUS-D	O	X drive control signal	0 to 3.3	—
14	GND	—	GND	—	—
15	XSUS-U	O	X drive control signal	0 to 3.3	—
16	GND	—	GND	—	—
17	XSUS-B	O	X drive control signal	0 to 3.3	—
18	GND	—	GND	—	—

CN3506 (D20) ↔ 42 Y DRIVE ASSY CN2001 (Y1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	GND	—	GND	—	—
2	SCNSV_PD	I	Y drive PD signal	0	TP3507
3	SI_L	O	Scan control signal	0 to 3.3	—
4	SI_H	O	Scan control signal	0 to 3.3	—
5	GND	—	GND	—	—
6	CLR	O	Scan control signal	0 to 3.3	—
7	CLK	O	Scan control signal	0 to 3.3	—
8	GND	—	GND	—	—
9	LE	O	Scan control signal	0 to 3.3	—
10	OC2	O	Scan control signal	0 to 3.3	—
11	OC1 (–1)	O	Scan control signal	0 to 3.3	—
12	GND	—	GND	—	—
13	YSUS-B	O	Y drive control signal	0 to 3.3	—
14	YSUS-U	O	Y drive control signal	0 to 3.3	—
15	GND	—	GND	—	—
16	YSUS-D	O	Y drive control signal	0 to 3.3	—
17	YSUS-G	O	Y drive control signal	0 to 3.3	—
18	GND	—	GND	—	—
19	YPR-U	O	Y drive control signal	0 to 3.3	—
20	YRsv1	—	Y drive control signal (reserve)	—	—
21	GND	—	GND	—	—
22	YSUS-MSK	O	Y drive control signal	0 to 3.3	—
23	YNRST	O	Y drive control signal	0 to 3.3	—
24	YRsv2	—	Y drive control signal (reserve)	—	—
25	GND	—	GND	—	—
26	YENOFs	O	Y drive control signal	0 to 3.3	—
27	YRsv3	O	Y drive control signal (reserve)	—	—
28	YSOFT-D	O	Y drive control signal	0 to 3.3	—
29	GND	—	GND	—	—
30	VOFS_ADJ	—	Vofs offset adjustment	1.85	TP3181
31	VYPRST_ADJ	O	Reset voltage adjustment	1.21	TP3182
32	GND	—	GND	—	—
33	GND	—	GND	—	—
34	N.C	—	Non connection	—	—
35	GND	—	GND	—	—
36	YDD_PD	I	Y drive PD signal	0	TP3509
37	YSUS_PD	I	Y drive PD signal	0	TP3510
38	SCAN_PD	I	Y drive PD signal	0	TP3511
39	YDRV_PD	I	Y drive PD signal	0	TP3512
40	PSW	O	Function standby control signal	0	TP3518

42 DIGITAL ASSY

CN3501 (D15) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 4	TP3501
3	N.C	–	Non connection	–	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	–	GND	–	–
8	GND	–	GND	–	–
9	N.C	–	Non connection	–	–
10	TA–	O	LVDS data	1 to 1.4	–
11	TA+	O	LVDS data	1 to 1.4	–
12	N.C	–	Non connection	–	–
13	GND	–	GND	–	–
14	N.C	–	Non connection	–	–
15	TB–	O	LVDS data	1 to 1.4	–
16	TB+	O	LVDS data	1 to 1.4	–
17	N.C	–	Non connection	–	–
18	GND	–	GND	–	–
19	N.C	–	Non connection	–	–
20	TC–	O	LVDS data	1 to 1.4	–
21	TC+	O	LVDS data	1 to 1.4	–
22	N.C	–	Non connection	–	–
23	GND	–	GND	–	–
24	N.C	–	Non connection	–	–
25	TCLK–	O	LVDS data	1 to 1.4	–
26	TCLK+	O	LVDS data	1 to 1.4	–
27	N.C	–	Non connection	–	–
28	GND	–	GND	–	–
29	N.C	–	Non connection	–	–
30	TD–	O	LVDS data	1 to 1.4	–
31	TD+	O	LVDS data	1 to 1.4	–
32	N.C	–	Non connection	–	–
33	GND	–	GND	–	–
34	GND	–	GND	–	–
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	–	GND	–	–
38	ADRS_3	O	Output timing control	0	–
39	ADRS_2	O	Output timing control	0	–
40	GND	–	GND	–	–

CN3502 (D16) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 4	TP3502
3	N.C	–	Non connection	–	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	–	GND	–	–
8	GND	–	GND	–	–
9	N.C	–	Non connection	–	–
10	TA–	O	LVDS data	1 to 1.4	–
11	TA+	O	LVDS data	1 to 1.4	–
12	N.C	–	Non connection	–	–
13	GND	–	GND	–	–
14	N.C	–	Non connection	–	–
15	TB–	O	LVDS data	1 to 1.4	–
16	TB+	O	LVDS data	1 to 1.4	–
17	N.C	–	Non connection	–	–
18	GND	–	GND	–	–
19	N.C	–	Non connection	–	–
20	TC–	O	LVDS data	1 to 1.4	–
21	TC+	O	LVDS data	1 to 1.4	–
22	N.C	–	Non connection	–	–
23	GND	–	GND	–	–
24	N.C	–	Non connection	–	–
25	TCLK–	O	LVDS data	1 to 1.4	–
26	TCLK+	O	LVDS data	1 to 1.4	–
27	N.C	–	Non connection	–	–
28	GND	–	GND	–	–
29	N.C	–	Non connection	–	–
30	TD–	O	LVDS data	1 to 1.4	–
31	TD+	O	LVDS data	1 to 1.4	–
32	N.C	–	Non connection	–	–
33	GND	–	GND	–	–
34	GND	–	GND	–	–
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	–	GND	–	–
38	ADRS_3	O	Output timing control	0	–
39	ADRS_2	O	Output timing control	0	–
40	GND	–	GND	–	–

42 DIGITAL ASSY

CN3503 (D17) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 4	TP3503
3	N.C	—	Non connection	—	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	—	GND	—	—
8	GND	—	GND	—	—
9	N.C	—	Non connection	—	—
10	TA—	O	LVDS data	1 to 1.4	—
11	TA+	O	LVDS data	1 to 1.4	—
12	N.C	—	Non connection	—	—
13	GND	—	GND	—	—
14	N.C	—	Non connection	—	—
15	TB—	O	LVDS data	1 to 1.4	—
16	TB+	O	LVDS data	1 to 1.4	—
17	N.C	—	Non connection	—	—
18	GND	—	GND	—	—
19	N.C	—	Non connection	—	—
20	TC—	O	LVDS data	1 to 1.4	—
21	TC+	O	LVDS data	1 to 1.4	—
22	N.C	—	Non connection	—	—
23	GND	—	GND	—	—
24	N.C	—	Non connection	—	—
25	TCLK—	O	LVDS data	1 to 1.4	—
26	TCLK+	O	LVDS data	1 to 1.4	—
27	N.C	—	Non connection	—	—
28	GND	—	GND	—	—
29	N.C	—	Non connection	—	—
30	TD—	O	LVDS data	1 to 1.4	—
31	TD+	O	LVDS data	1 to 1.4	—
32	N.C	—	Non connection	—	—
33	GND	—	GND	—	—
34	GND	—	GND	—	—
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	—	GND	—	—
38	ADRS_3	O	Output timing control	0	—
39	ADRS_2	O	Output timing control	0	—
40	GND	—	GND	—	—

CN3504 (D18) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 4	TP3504
3	PSIZE	I	Panel size judge signal	3.3	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	—	GND	—	—
8	GND	—	GND	—	—
9	N.C	—	Non connection	—	—
10	TA—	O	LVDS data	1 to 1.4	—
11	TA+	O	LVDS data	1 to 1.4	—
12	N.C	—	Non connection	—	—
13	GND	—	GND	—	—
14	N.C	—	Non connection	—	—
15	TB—	O	LVDS data	1 to 1.4	—
16	TB+	O	LVDS data	1 to 1.4	—
17	N.C	—	Non connection	—	—
18	GND	—	GND	—	—
19	N.C	—	Non connection	—	—
20	TC—	O	LVDS data	1 to 1.4	—
21	TC+	O	LVDS data	1 to 1.4	—
22	N.C	—	Non connection	—	—
23	GND	—	GND	—	—
24	N.C	—	Non connection	—	—
25	TCLK—	O	LVDS data	1 to 1.4	—
26	TCLK+	O	LVDS data	1 to 1.4	—
27	N.C	—	Non connection	—	—
28	GND	—	GND	—	—
29	N.C	—	Non connection	—	—
30	TD—	O	LVDS data	1 to 1.4	—
31	TD+	O	LVDS data	1 to 1.4	—
32	N.C	—	Non connection	—	—
33	GND	—	GND	—	—
34	GND	—	GND	—	—
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	—	GND	—	—
38	ADRS_3	O	Output timing control	0	—
39	ADRS_2	O	Output timing control	0	—
40	GND	—	GND	—	—

CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+12V	I	+12 V power supply input	12	—
2	V+12V	I	+12 V power supply input	12	—
3	GND	—	GND	—	—
4	GND	—	GND	—	—
5	V+3.3V_STB	I	STB3.3 V power supply input	0 to 3.3	—
6	GND	—	GND	—	—
7	M_SW_DET	I	Mechanism switch detection signal input	0 to 3.3	—
8	EXT_PD	O	Power down signal	0 to 3.3	—
9	VSUS_ADJ	O	VSUS power supply adjustment signal	0 to 3.3	—
10	PS_PD	I	Power supply PD signal	0 to 3.3	—
11	RELAY	O	Relay control	0 to 3.3	—
12	DRF_B	O	Large power supply ON/OFF control signal	0 to 3.3	—
13	AC_DET	I	AC power supply state input	0 to 3.3	—
14	PD_TRG_B	I	Power down trigger signal	0 to 3.3	—

3.18.2 PDP-5016HD VOLTAGES

[Voltage of the Drive Connector]

50Y MAIN DRIVE ASSY POWER SUPPLY UNIT

Y4 CN2204(B9B-EH)			P1 (B9B-EH)		
No.	Name	Voltage (V)	No.	Name	
1	VSUS	205	1	VSUS	
2	VSUS	205	2	VSUS	
3	NC	-	3	NC	
4	GND_SUS	0	4	GND_SUS	
5	GND_SUS	0	5	GND_SUS	
6	GND	0	6	GND	
7	V+6.5V	5	7	V+6.5V	
8	V+16.5V	16.5	8	V+16.5V	
9	NC	-	9	NC	

50Y MAIN DRIVE ASSY 50 SCAN A ASSY

Y2 CN2601(AKM1200-)			SA1 CN2801(AKM1261- -TFB)		
No.	Name	Voltage (V)	No.	Name	
1	V H	GNDH+130	1	V H	
2	V H	GNDH+130	2	V H	
3	NC	-	3	NC	
4	NC	-	4	NC	
5	GNDH	-60 to 350	5	GNDH	
6	SI_L	-60 to 350	6	SI_L	
7	SI_H	-60 to 350	7	SI_H	
8	CLR	-60 to 350	8	CLR	
9	OC2	-60 to 350	9	OC2	
10	OC1	-60 to 350	10	OC1	
11	CLK	-60 to 350	11	CLK	
12	LE	-60 to 350	12	LE	
13	GNDH	-60 to 350	13	GNDH	
14	GNDH_R	-60 to 350	14	GNDH_R	
15	IC5V	-60 to 350	15	IC5V	

50Y MAIN DRIVE ASSY POWER SUPPLY UNIT

Y12 CN2206(KM200NA5)			P7 (B6B-PH-K-S)		
No.	Name	Voltage (V)	No.	Name	
1	VADR	60	1	VADR	
2	VADR	60	2	VADR	
3	NC	-	3	NC	
4	GND_ADR	0	4	GND_ADR	
5	GND_ADR	0	5	GND_ADR	
			6	NC	

50Y SUB DRIVE ASSY 50Y MAIN DRIVE ASSY

Y9 CN2701(14R-FJ)			Y8 CN2202(14PL-FJ)		
No.	Name	Voltage (V)	No.	Name	
1	MSK-G	-60 to 205	1	MSK-G	
2	MSK-S	-60 to 205	2	MSK-S	
3	NC	-	3	NC	
4	GND_SUS	0	4	GND_SUS	
5	SUS_G	0	5	SUS_G	
6	GND_CN	0	6	GND_CN	
7	NC	-	7	NC	
8	SUSOUT	0 to 205	8	SUSOUT	
9	SUS_B	0 to 205	9	SUS_B	
10	SUSOUT	0 to 205	10	SUSOUT	
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V	
12	NC	-	12	NC	
13	VSUS	205	13	VSUS	
14	VSUS	205	14	VSUS	

50X MAIN DRIVE ASSY POWER SUPPLY UNIT

X2 CN1204(B8B-EH)			P2 (B8B-EH)		
No.	Name	Voltage (V)	No.	Name	
1	VSUS	205	1	VSUS	
2	VSUS	205	2	VSUS	
3	NC	-	3	NC	
4	GND_SUS	0	4	GND_SUS	
5	GND_SUS	0	5	GND_SUS	
6	GND	0	6	GND	
7	V+6.5V	5	7	V+6.5V	
8	V+16.5V	16.5	8	V+16.5V	

50X MAIN DRIVE ASSY 50X SUB DRIVE ASSY

X6 CN1201(14PL-FJ)			X7 CN1501(14R-FJ)		
No.	Name	Voltage (V)	No.	Name	
1	MSK	-180 to 205	1	MSK	
2	PSUS	-180 to 205	2	PSUS	
3	NC	-	3	NC	
4	GND_SUS	0	4	GND_SUS	
5	SUS_G	0	5	SUS_G	
6	GND_CN	0	6	GND_CN	
7	NC	-	7	NC	
8	SUSOUT	0 to 205	8	SUSOU	
9	SUS_B	0 to 205	9	SUS_B	
10	SUSOUT	0 to 205	10	SUSOUT	
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V	
12	NC	-	12	NC	
13	VSUS	205	13	VSUS	
14	VSUS	205	14	VSUS	

50X MAIN DRIVE ASSY POWER SUPPLY UNIT

X8 CN1205(KM200NA5)			P6 (B5B-PH-K-S)		
No.	Name	Voltage (V)	No.	Name	
1	VADR	60	1	VADR	
2	VADR	60	2	VADR	
3	NC	-	3	NC	
4	GND_ADR	0	4	GND_ADR	
5	GND_ADR	0	5	GND_ADR	

50Y MAIN DRIVE ASSY 50 ADDRESS L ASSY 50 ADDRESS S ASSY

Y5 CN2205(KM200NA8)			AD1 CN1601(AKM1290- -TBB)			AD1 CN1801(AKM1290- -TBB)		
No.	Name	Voltage (V)	No.	Name		No.	Name	
1	VADR	60	1	VADR		1	VADR	
2	VADR	60						
3	GND_ADR	0	2	GND_ADR		2	GND_ADR	
4	GND_ADR	0						
5	V+5.1V	5	3	V+5.1V		3	V+5.1V	
6	V+5.1V	5						
7	GND	0	4	GND		4	GND	
8	GND	0						

50X MAIN DRIVE ASSY 50 ADDRESS S ASSY 50 ADDRESS L ASSY

X3 CN1202(KM200NA8)			AD1 CN1801(AKM1290- -TBB)			AD1 CN1601(AKM1290- -TBB)		
No.	Name	Voltage (V)	No.	Name		No.	Name	
1	VADR	60	1	VADR		1	VADR	
2	VADR	60						
3	GND_ADR	0	2	GND_ADR		2	GND_ADR	
4	GND_ADR	0						
5	V+5.1V	5	3	V+5.1V		3	V+5.1V	
6	V+5.1V	5						
7	GND	0	4	GND		4	GND	
8	GND	0						

50 DIGITAL ASSY

CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+12V	I	+12 V power supply input	12	—
2	V+12V	I	+12 V power supply input	12	—
3	GND	—	GND	—	—
4	GND	—	GND	—	—
5	V+3.3V_STB	I	STB3.3 V power supply input	0 to 3.3	—
6	GND	—	GND	—	—
7	M_SW_DET	I	Mechanism switch detection signal input	0 to 3.3	—
8	EXT_PD	O	Power down signal	0 to 3.3	—
9	VSUS_ADJ	O	VSUS power supply adjustment signal	0 to 3.3	—
10	PS_PD	I	Power supply PD signal	0 to 3.3	—
11	RELAY	O	Relay control	0 to 3.3	—
12	DRF_B	O	Large power supply ON/OFF control signal	0 to 3.3	—
13	AC_DET	I	AC power supply state input	0 to 3.3	—
14	PD_TRG_B	I	Power down trigger signal	0 to 3.3	—

CN3501 (D15) ↔ 50 ADDRESS L ASSY CN1602 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 3.3	—
3	PSIZE	I	Panel size judge signal	0	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply input	8	—
6	V+8V	O	+8 V power supply input	8	—
7	GND	—	GND	—	—
8	GND_LVDS	—	GND	—	—
9	NC	—	Non connection	—	—
10	TAN	O	LVDS data	1 to 1.4	—
11	TAP	O	LVDS data	1 to 1.4	—
12	NC	—	Non connection	—	—
13	GND_LVDS	—	GND	—	—
14	NC	—	Non connection	—	—
15	TBN	O	LVDS data	1 to 1.4	—
16	TBP	O	LVDS data	1 to 1.4	—
17	NC	—	Non connection	—	—
18	GND_LVDS	—	GND	—	—
19	NC	—	Non connection	—	—
20	TCN	O	LVDS data	1 to 1.4	—
21	TCP	O	LVDS data	1 to 1.4	—
22	NC	—	Non connection	—	—
23	GND_LVDS	—	GND	—	—
24	NC	—	Non connection	—	—
25	TCLKN	O	LVDS data	1 to 1.4	—
26	TCLKP	O	LVDS data	1 to 1.4	—
27	NC	—	Non connection	—	—
28	GND_LVDS	—	GND	—	—
29	NC	—	Non connection	—	—
30	TDN	O	LVDS data	1 to 1.4	—
31	TDP	O	LVDS data	1 to 1.4	—
32	NC	—	Non connection	—	—
33	GND_LVDS	—	GND	—	—
34	GND	—	GND	—	—
35	V+3.3V	O	+3.3 V power supply output	3.3	—
36	V+3.3V	O	+3.3 V power supply output	3.3	—
37	GND	—	GND	—	—
38	DIV1	O	Data output timing control	3.3	—
39	DIV0	O	Data output timing control	3.3	—
40	GND	—	GND	—	—

50 DIGITAL ASSY

CN3502 (D16) ↔ 50 ADDRESS S ASSY CN1802 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	0	–
39	DIV0	O	Data output timing control	0	–
40	GND	–	GND	–	–

50 DIGITAL ASSY

CN3503 (D17) ↔ 50 ADDRESS S ASSY CN1802 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	3.3	–
39	DIV0	O	Data output timing control	0	–
40	GND	–	GND	–	–

50 DIGITAL ASSY

CN3504 (D18) ↔ 50 ADDRESS L ASSY CN1602 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	0	–
39	DIV0	O	Data output timing control	3.3	–
40	GND	–	GND	–	–

50 DIGITAL ASSY

CN3506 (D20) ↔ 50 Y MAIN DRIVE ASSY CN2001 (Y1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
40	PSW2	O	Function standby control signal	0 to 3.3	—
39	YDRV_PD	I	Y drive PD signal	0 to 3.3	—
38	SCAN_PD	I	Y drive PD signal	0 to 3.3	—
37	YSUS_PD	I	Y drive PD signal	0 to 3.3	—
36	YDD_PD	I	Y drive PD signal	0 to 3.3	—
35	GND	—	GND	—	—
34	GND	—	GND	—	—
33	GND	—	GND	—	—
32	GND	—	GND	—	—
31	VYPRST_ADJ	O	Y drive control signal	0 to 3.3	—
30	VOFS_ADJ	O	Y drive control signal	0 to 3.3	—
29	GND	—	GND	—	—
28	YSOFT-D	O	Y drive control signal	0 to 3.3	—
27	YRsv3	O	Y drive control signal	0 to 3.3	—
26	YNOFS	O	Y drive control signal	0 to 3.3	—
25	GND	—	GND	—	—
24	YRsv2	O	Y drive control signal	0 to 3.3	—
23	YNRST	O	Y drive control signal	0 to 3.3	—
22	YSUS_MSK	O	Y drive control signal	0 to 3.3	—
21	GND	—	GND	—	—
20	SUS_MUTE	O	Y drive control signal	0 to 3.3	—
19	YPR-U	O	Y drive control signal	0 to 3.3	—
18	GND	—	GND	—	—
17	YSUS_G	O	Y drive control signal	0 to 3.3	—
16	YSUS_D	O	Y drive control signal	0 to 3.3	—
15	GND	—	GND	—	—
14	YSUS_U	O	Y drive control signal	0 to 3.3	—
13	YSUS_B	O	Y drive control signal	0 to 3.3	—
12	GND	—	GND	—	—
11	OC1 (–1)	O	Scan control signal	0 to 3.3	—
10	OC2	O	Scan control signal	0 to 3.3	—
9	LE	O	Scan control signal	0 to 3.3	—
8	GND	—	GND	—	—
7	CLK1	O	Scan control signal	0 to 3.3	—
6	CLR	O	Scan control signal	0 to 3.3	—
5	GND	—	GND	—	—
4	SI_H	O	Scan control signal	0 to 3.3	—
3	SI_L	O	Scan control signal	0 to 3.3	—
2	SCN5V_PD	I	Scan 5 V PD signal	0 to 3.3	—
1	YCN_PD	O	Y drive PD signal	0 to 3.3	—

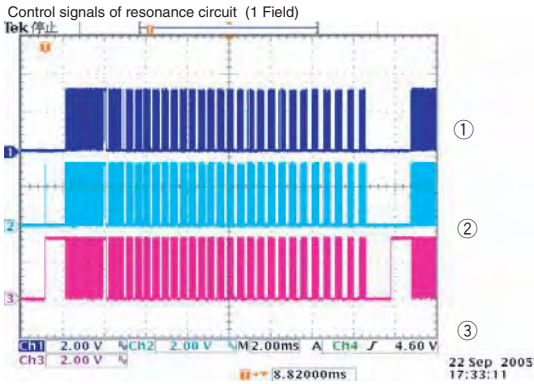
CN3505 (D19) ↔ 50 X MAIN DRIVE ASSY CN1001 (X1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	PSW2	O	Function standby control signal	0 to 3.3	—
2	XSUS_PD	I	X drive PD signal	0 to 3.3	—
3	XDD_PD	I	X drive PD signal	0 to 3.3	—
4	XDRV_PD	I	X drive PD signal	0 to 3.3	—
5	GND	—	GND	—	—
6	SUS_MUTE	O	X drive control signal	0 to 3.3	—
7	XSUS_MSK	O	X drive control signal	0 to 3.3	—
8	GND	—	GND	—	—
9	XNR_D	O	X drive control signal	0 to 3.3	—
10	GND	—	GND	—	—
11	XSUS_G	O	X drive control signal	0 to 3.3	—
12	GND	—	GND	—	—
13	XSUS_D	O	X drive control signal	0 to 3.3	—
14	GND	—	GND	—	—
15	XSUS_U	O	X drive control signal	0 to 3.3	—
16	GND	—	GND	—	—
17	XSUS_B	O	X drive control signal	0 to 3.3	—
18	XCN_PD	O	X drive PD signal	0 to 3.3	—

3.19 WAVEFORMS

3.19.1 PDP-4216HD WAVEFORMS

42 ADDRESS Ass'y (AWV2335-)

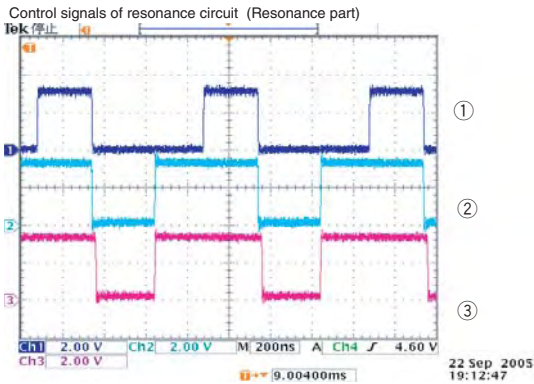


input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

① CH1 : ADR_B side-A test plane "B"
V : 2V/div
H : 2ms/div

② CH2 : ADR_U side-A test plane "U"
V : 2V/div
H : 2ms/div

③ CH3 : ADR_D side-A test plane "D"
V : 2V/div
H : 2ms/div

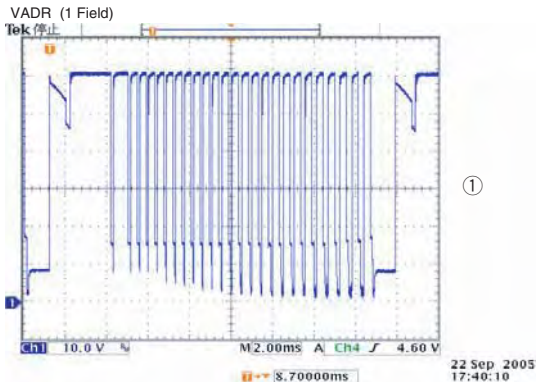


input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

① CH1 : ADR_B side-A test plane "B"
V : 2V/div
H : 200ns/div

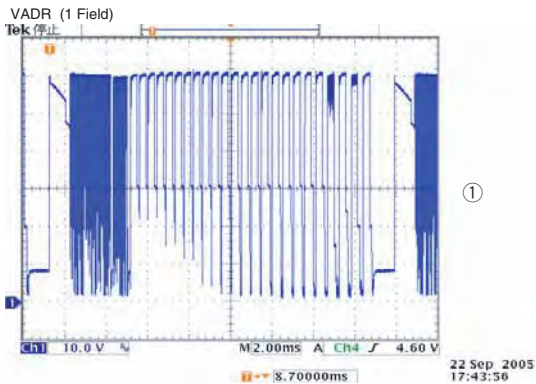
② CH2 : ADR_U side-A test plane "U"
V : 2V/div
H : 200ns/div

③ CH3 : ADR_D side-A test plane "D"
V : 2V/div
H : 200ns/div



input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

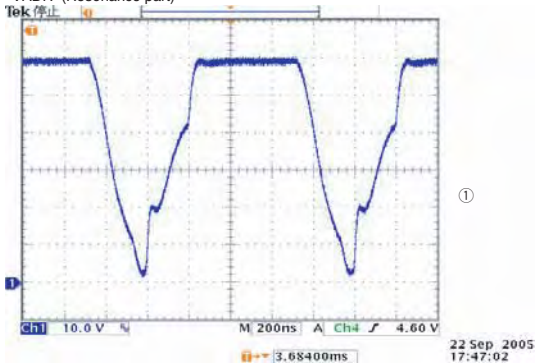
① CH1 : IC1555 3pin (VDD2) (side-A through hole)
V : 10V/div
H : 2ms/div



input : VIDEO 60Hz
signal : Checkered pattern of Black- White (MKSS13)

① CH1 : IC1555 3pin (VDD2) (side-A through hole)
V : 10V/div
H : 2ms/div

VADR (Resonance part)



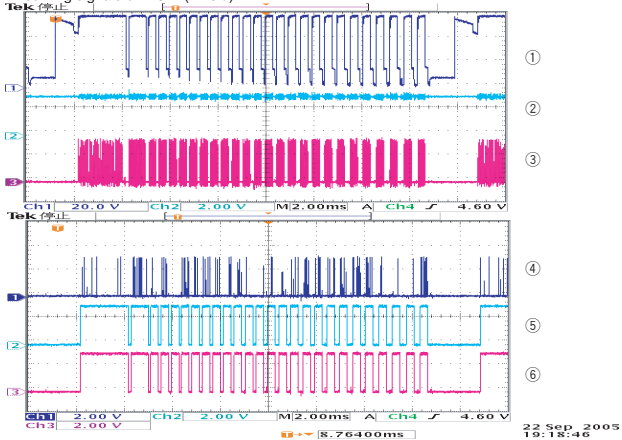
input : VIDEO 60Hz

signal : Checkered pattern of Black- White (MKSS13)

- ① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)
V : 10 V/div
H : 200 ns/div

A

Incoming signals of TCP (1Field)



input : VIDEO 60Hz

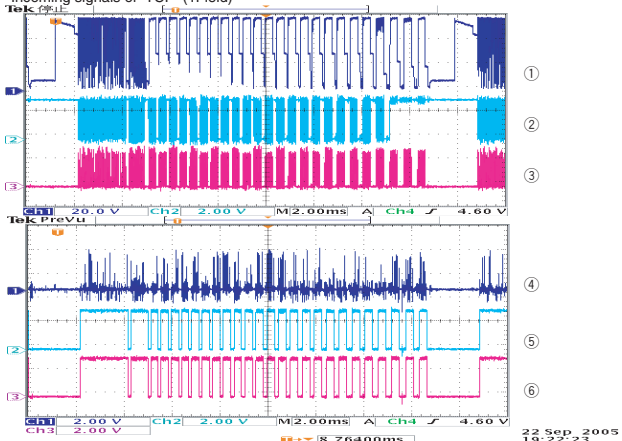
signal : COLOR BAR (MKSS17)

- ① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)
V : 20 V/div
H : 2 ms/div
- ② CH2 : IC1555 9pin (A3) side-A test plane"R_E"
V : 2 V/div
H : 2 ms/div
- ③ CH3 : IC1555 16pin (CLK) side-A test plane "CLK1"
V : 2 V/div
H : 2 ms/div
- ④ CH1 : IC1555 14pin (LE) side-A test plane"LE_E"
V : 2 V/div
H : 2 ms/div
- ⑤ CH2 : IC1555 19pin (HBLK) side-A test plane"HBLK"
V : 2 V/div
H : 2 ms/div
- ⑥ CH3 : IC1555 17pin (LBLK) side-A test plane"LBLK"
V : 2 V/div
H : 2 ms/div

B

C

Incoming signals of TCP (1Field)



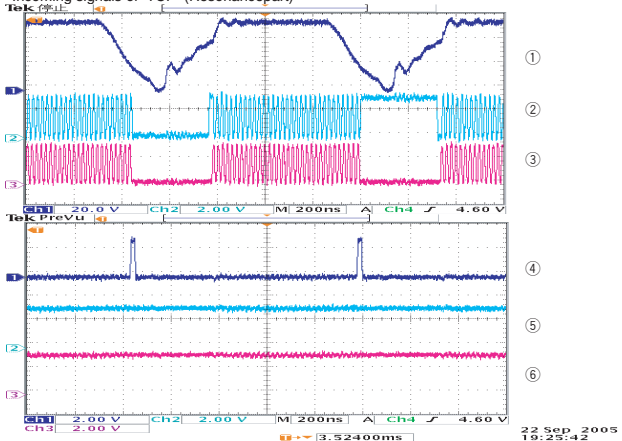
input : VIDEO 60Hz

signal : Checkered pattern of Black- White (MKSS13)

- ① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)
V : 20 V/div
H : 2 ms/div
- ② CH2 : IC1555 9pin (A3) side-A test plane"R_E"
V : 2 V/div
H : 2 ms/div
- ③ CH3 : IC1555 16pin (CLK) side-A test plane"CLK1"
V : 2 V/div
H : 2 ms/div
- ④ CH1 : IC1555 14pin (LE) side-A test plane"LE_E"
V : 2 V/div
H : 2 ms/div
- ⑤ CH2 : IC1555 19pin (HBLK) side-A test plane"HBLK"
V : 2 V/div
H : 2 ms/div
- ⑥ CH3 : IC1555 17pin (LBLK) side-A test plane"LBLK"
V : 2 V/div
H : 2 ms/div

D

Incoming signals of TCP (Resonancepart)



input : VIDEO 60Hz

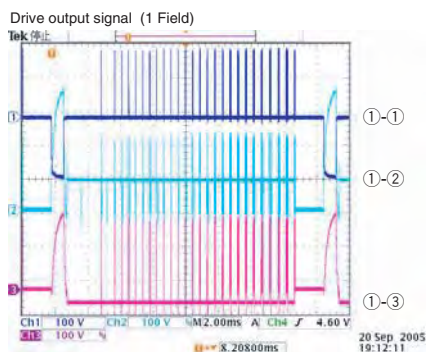
signal : Checkered pattern of Black- White (MKSS13)

- ① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)
V : 20 V/div
H : 200 ns/div
- ② CH2 : IC1555 9pin (A3) side-A test plane"R_E"
V : 2 V/div
H : 200 ns/div
- ③ CH3 : IC1555 16pin (CLK) side-A test plane"CLK1"
V : 2 V/div
H : 200 ns/div
- ④ CH1 : IC1555 14pin (LE) side-A test plane"LE_E"
V : 2 V/div
H : 200 ns/div
- ⑤ CH2 : IC1555 19pin (HBLK) side-A test plane"HBLK"
V : 2 V/div
H : 200 ns/div
- ⑥ CH3 : IC1555 17pin (LBLK) side-A test plane"LBLK"
V : 2 V/div
H : 200 ns/div

E

F

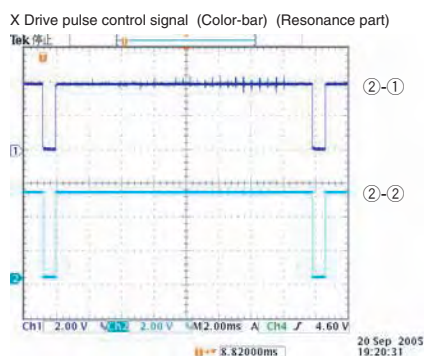
42 X DRIVE, 42 Y DRIVE Ass'y (AWW1196, AWW2400) 42 SCAN Ass'y (AWV2362)



input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)
① CH1 : R1277(XPSUS)-K1203(SUSGND)
V : 100V/div H : 2ms/div (X DRIVE Assy)

② CH2 : K2701(SCANOUT)-K2330(SUSGND)
V : 100V/div H : 2ms/div (Y DRIVE Assy)

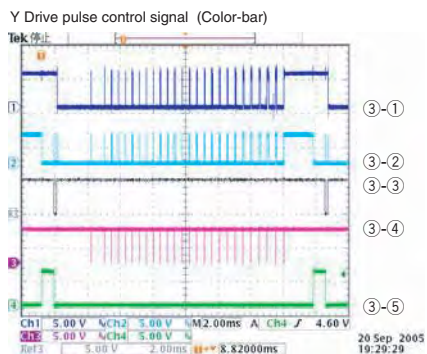
③ CH3 : F2301(YPSUS)-K2330(SUSGND)
V : 100V/div H : 2ms/div (Y DRIVE Assy)



input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

① CH1 : K1009(XSUS-MSK)-K1002(DGND)
V : 2V/div H : 2ms/div (X DRIVE Assy)

② CH2 : K1005(XNR-D)-K1002(DGND)
V : 2V/div H : 2ms/div (X DRIVE Assy)



input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

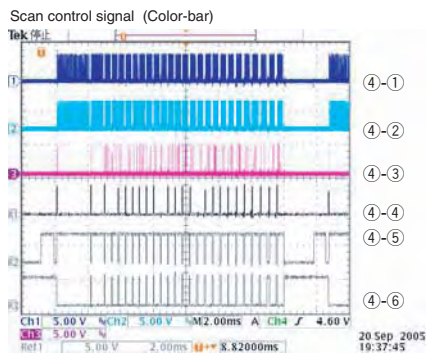
① CH1 : K2007(YNOFS)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

② CH2 : K2005(YSUS-MSK)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

③ Ref3 : K2008(YNRST)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

④ CH3 : K2006(SOFT_D)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

⑤ CH4 : K2023(YRP-U)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)



input : VIDEO 60Hz
signal : COLOR BAR (MKSS17)

① CH1 : TP2001(LE)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

② CH2 : TP2008(CLK)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

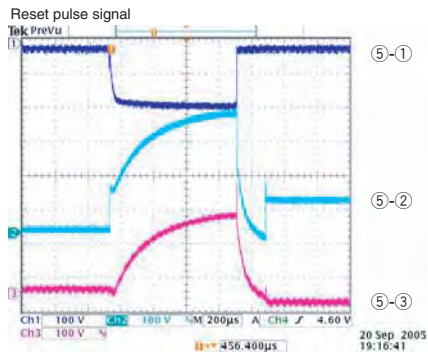
③ CH3 : TP2003(SI-H)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

④ Ref1 : TP2004(CLR)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

⑤ Ref2 : TP2005(OC2)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

⑥ Ref3 : TP2006(OC1)-K2002(GND_D)
V : 5V/div H : 2ms/div (Y DRIVE Assy)

A

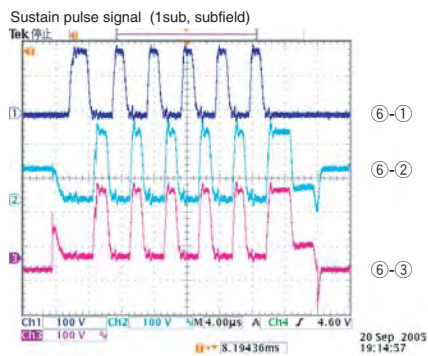


input : VIDEO 60 Hz
signal : COLOR BAR(MKSS17)
① CH1 : R1277(XPSUS)-K1203(SUSGND)
V : 100 V/div H : 200 μs/div (X DRIVE Assy)

② CH2 : K2701(SCANOUT)-K2330(SUSGND)
V : 100 V/div H : 200 μs/div (Y DRIVE Assy)

③ CH3 : F2301(YPSUS)-K2330(SUSGND)
V : 100V/div H : 200 μs/div (Y DRIVE Assy)

B

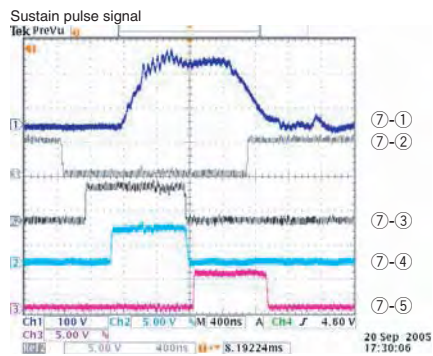


input : VIDEO 60 Hz
signal : COLOR BAR(MKSS17)
① CH1 : R1277(XPSUS)-K1203(SUSGND)
V : 100 V/div H : 4 μs/div (X DRIVE Assy)

② CH2 : K2701(SCANOUT)-K2330(SUSGND)
V : 100 V/div H : 4 μs/div (Y DRIVE Assy)

③ CH3 : F2301(YPSUS)-K2330(SUSGND)
V : 100 V/div H : 4 μs/div (Y DRIVE Assy)

C



input : VIDEO 60 Hz
signal : COLOR BAR(MKSS17)
① CH1 : F2301(YPSUS)-K2330(SUSGND)
V : 100 V/div H : 400 ns/div (Y DRIVE Assy)
② Ref3 : K2004(YSUS-G)-K2002(GND_D)
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)
③ Ref2 : K2011(YSUS-U)-K2002(GND_D)
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)
④ CH2 : K2009(YSUS-B)-K2002(GND_D)
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)
⑤ CH3 : K2010(YSUS-D)-K2002(GND_D)
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)

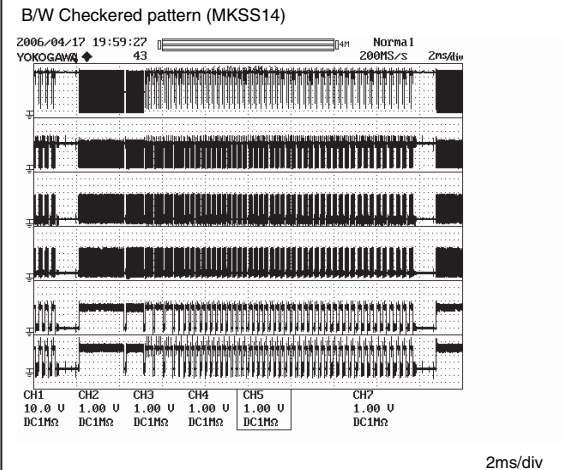
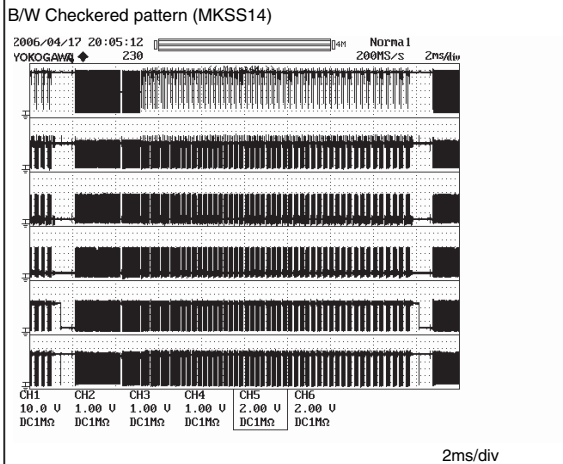
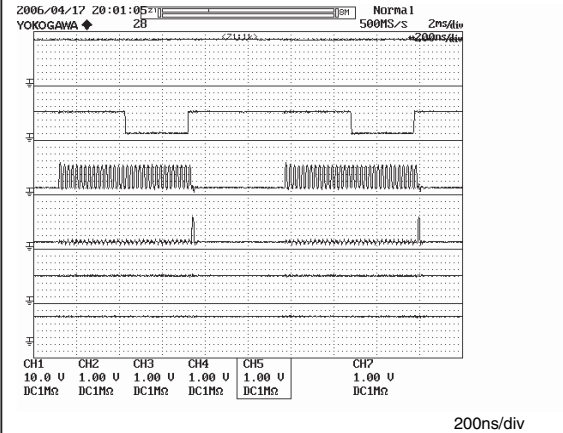
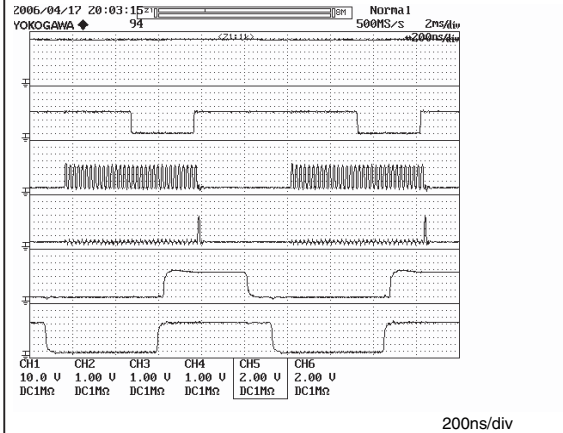
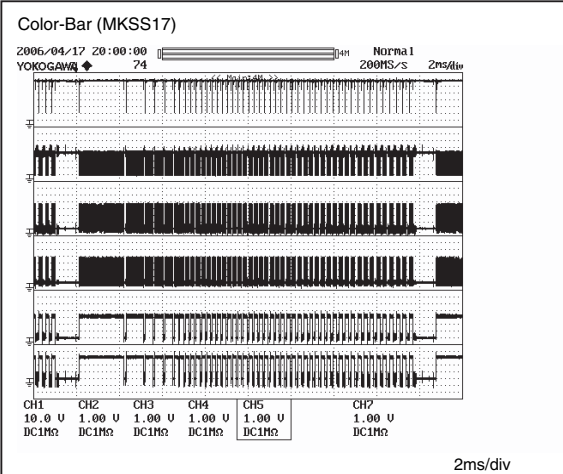
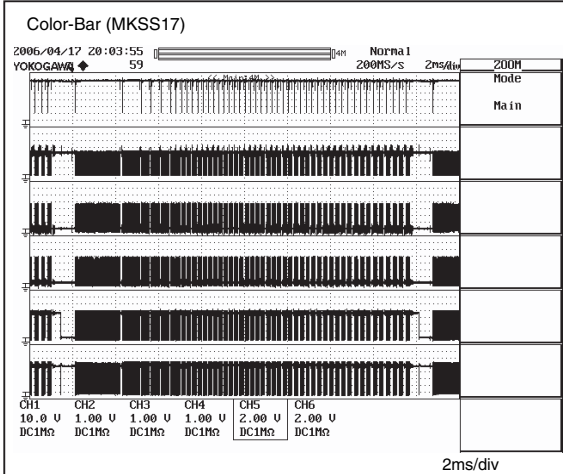
D

E

F

50 ADDRESS L Assy Waveform

Measuring CH	Waveform	Measuring Point	Waveform	Measuring Point
CH1	Resonance waveform (V+ADR)	L1730	Resonance waveform (V+ADR)	L1730
CH2	R ch signal	R1608	R ch signal	R1608
CH3	CLK	R1637	CLK	R1637
CH4	LE	R1621	LE	R1621
CH5	ADR-D	R1720	HBLK	R1615
CH6	ADR-B	R1714	—	—
CH7	—	—	LBLK	R1616



A

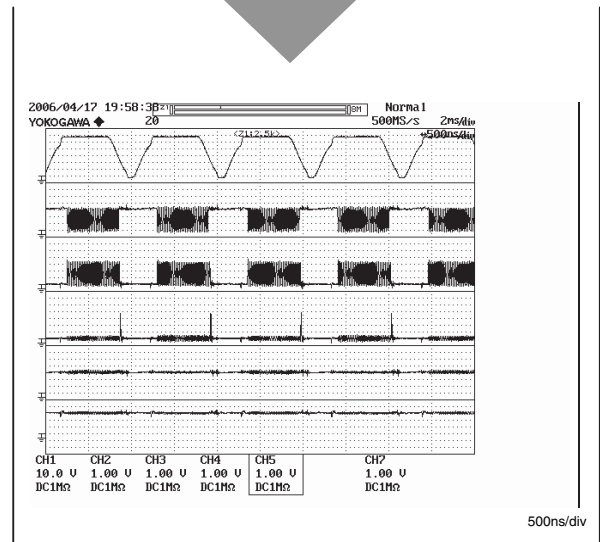
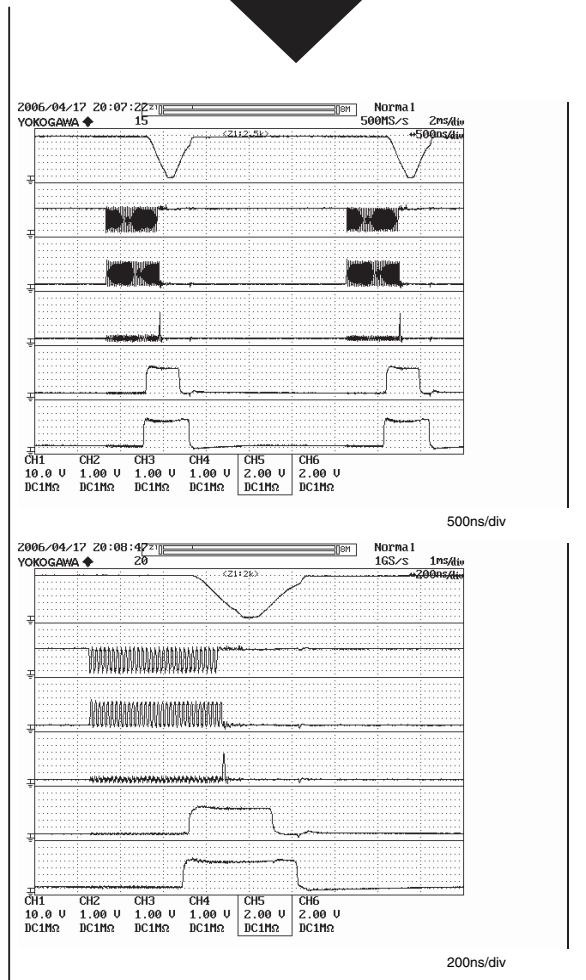
B

C

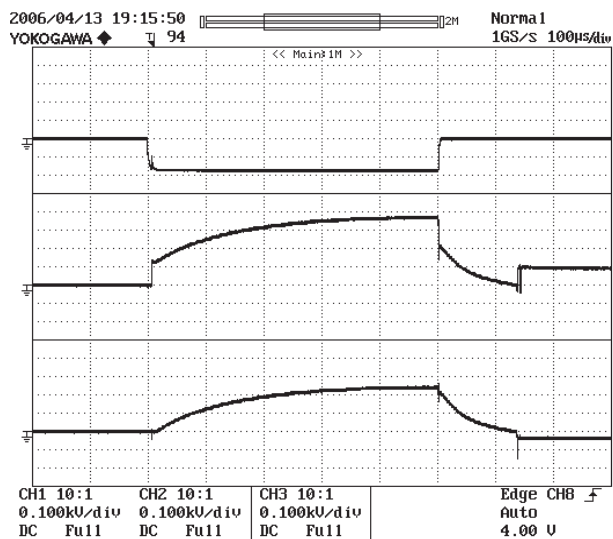
D

E

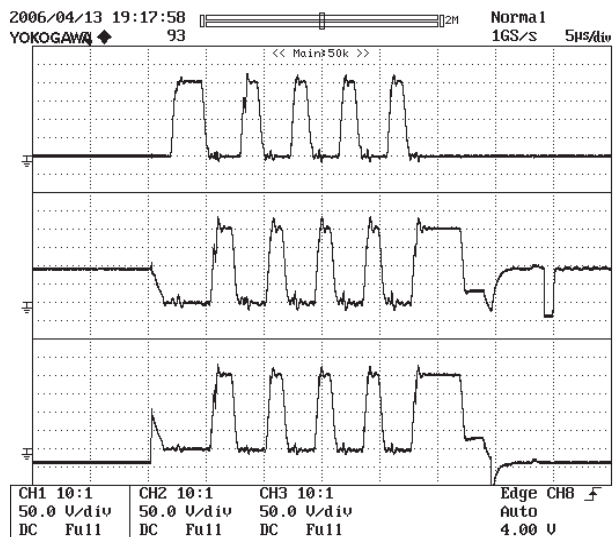
F



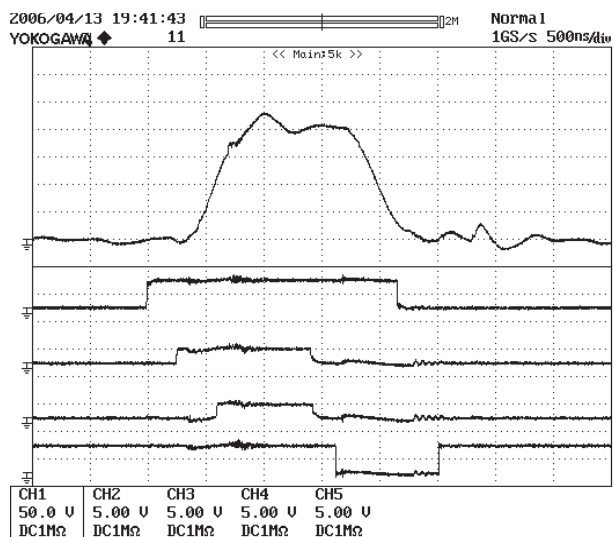
A 50 X/Y DRIVE Assy Waveform



- ⑨ CH1 R1248 (XPSUS) -K1202(SUSGND)
V:100 V/div H:100 uS/div
(X drive Assy)
- ⑩ CH2 K2901 (ScanOUT) -K2701(SUSGND)
V:100 V/div H:100 uS/div
(Y drive Assy)
- ⑪ CH3 F2207 (YPSUS) -K2203(SUSGND)
V:100 V/div H:100 uS/div
(Y drive Assy)

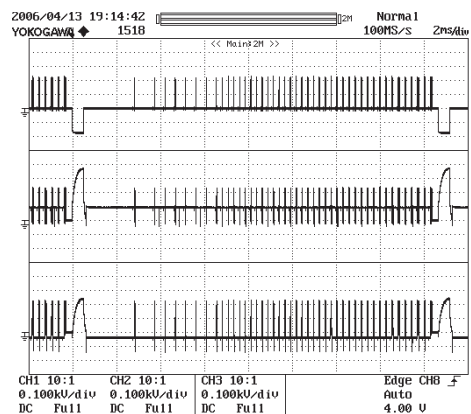


- ⑫ CH1 R1248 (XPSUS) -K1202(SUSGND)
V:50 V/div H:5 uS/div
(X drive Assy)
- ⑬ CH2 K2901 (ScanOUT) -K2701(SUSGND)
V:50 V/div H:5 uS/div
(Y drive Assy)
- ⑭ CH3 F2207 (YPSUS) -K2203(SUSGND)
V:50 V/div H:5 uS/div
(Y drive Assy)

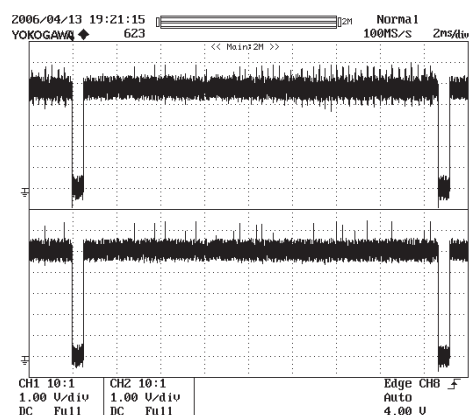


- ⑮ CH1 F2207 (YPSUS) -K2203(SUSGND)
V:100 V/div H:500 nS/div
(Y drive Assy)
- ⑯ CH2 K2021 (YSUS_G) -K2014(GND)
V:5 V/div H:500 nS/div
(Y drive Assy)
- ⑰ CH3 K2009 (YSUS_U) -K2014(GND)
V:5 V/div H:500 nS/div
(Y drive Assy)
- ⑱ CH4 K2013 (YSUS_B) -K2014(GND)
V:5 V/div H:500 nS/div
(Y drive Assy)
- ⑲ CH5 K2010 (YSUS_D) -K2014(GND)
V:5 V/div H:500 nS/div
(Y drive Assy)

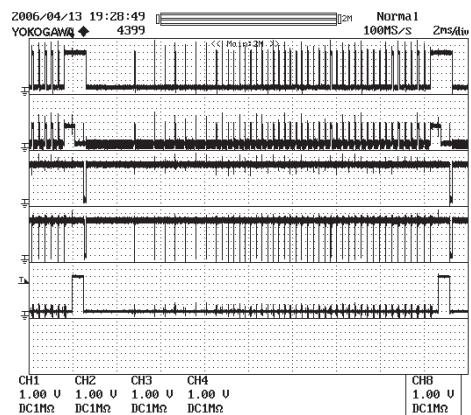
50 X/Y DRIVE Assy Waveform



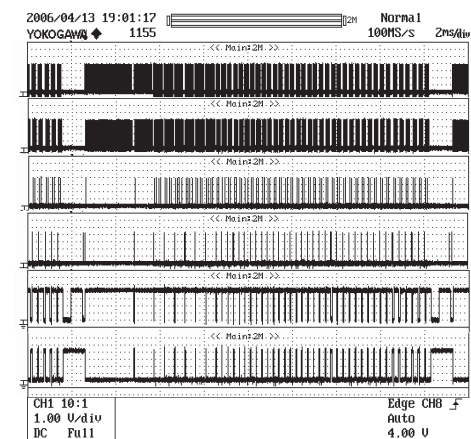
- 20 CH1 R1248 (XPSUS) -K1202(SUSGND)
V:100V/div H:2mS/div
(X drive Assy)
- 21 CH2 K2901 (ScanOUT) -K2701(SUSGND)
V:100V/div H:2mS/div
(Y drive Assy)
- 22 CH3 F2207 (YPSUS) -K2203(SUSGND)
V:100V/div H:2mS/div
(Y drive Assy)



- 23 CH1 K1013 (XSUS_MSK)-K1004(GND)
V:1V/div H:2mS/div
(X drive Assy)
- 24 CH2 K1007 (XNR-D) -K1004(GND)
V:1V/div H:2mS/div
(X drive Assy)



- 25 CH1 K2007 (YNOFS) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 26 CH2 K2007 (YSUS_MSK)-K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 27 CH3 K2008 (YNRST) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 28 CH4 K2006 (SOFT-D) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 29 CH5 K2011 (YPR-U) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)

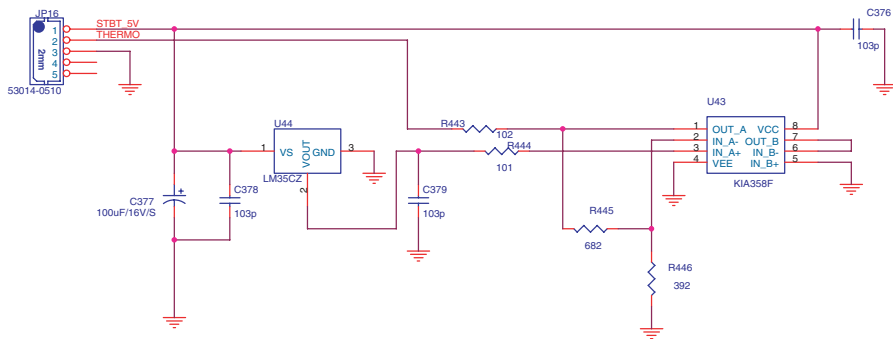


- 30 CH1 IC2001 18(LE) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 31 CH2 IC2001 17 (CLK) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 32 CH3 IC2001 16 (SL_H) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 33 CH4 IC2001 15 (CLR) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 34 CH5 IC2001 14 (OC2) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)
- 35 CH5 IC2001 13 (OC1) -K2014(GND)
V:1V/div H:2mS/div
(Y drive Assy)

3.20 CIRCUIT DIAGRAM
3.20.1 SUB TERMINAL SENSOR ASSY

A

A



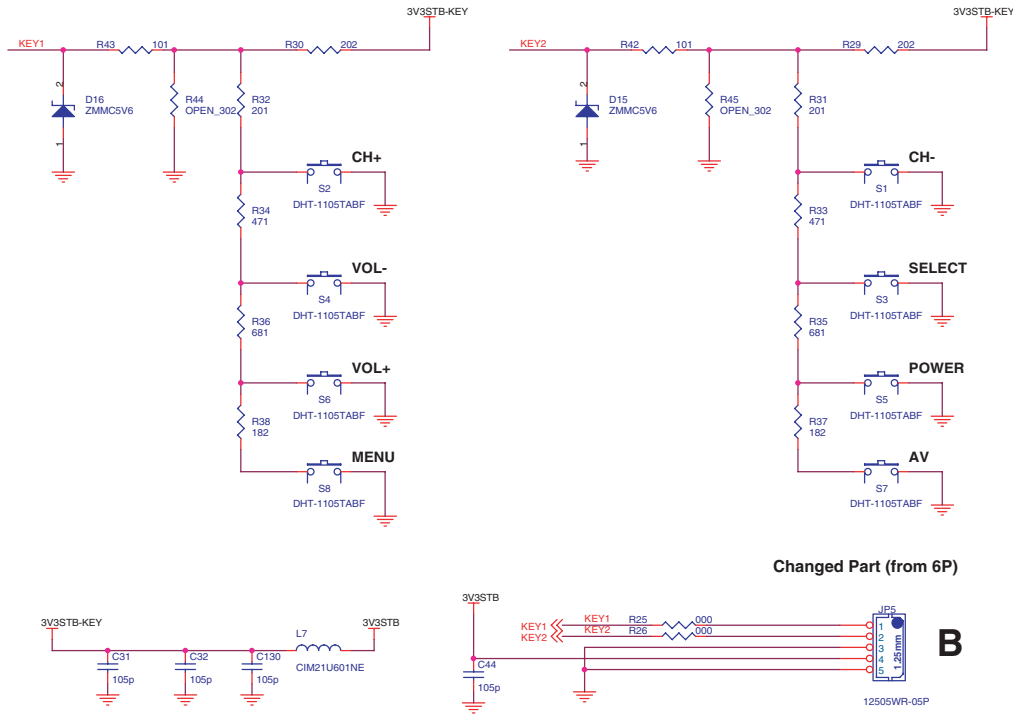
B

D01

D01

3.20.2 SUB KEY ASSY

C

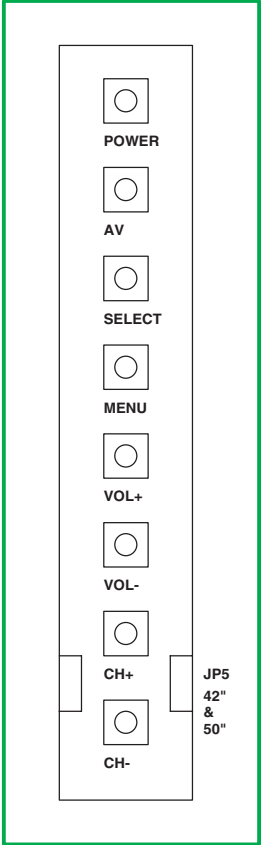


D

E

B

JP4 Del (2006. 05. 26)

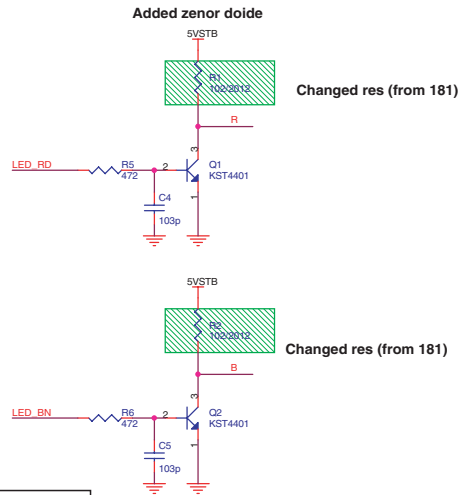
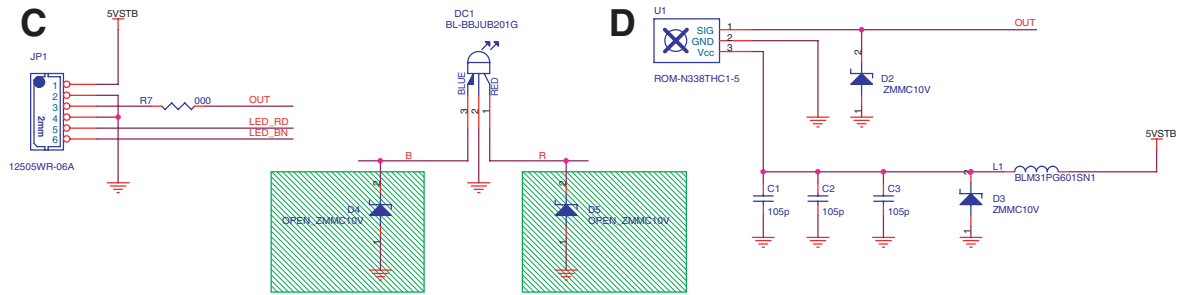


F

D01

D01

3.20.3 SUB IR & LED ASSY



D02

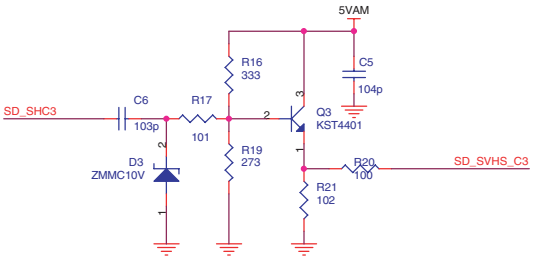
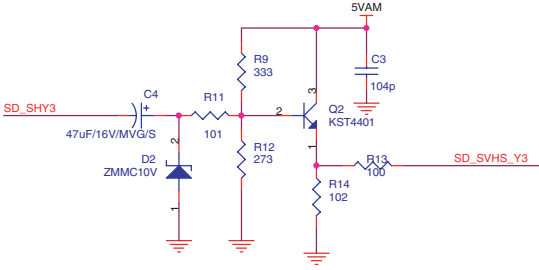
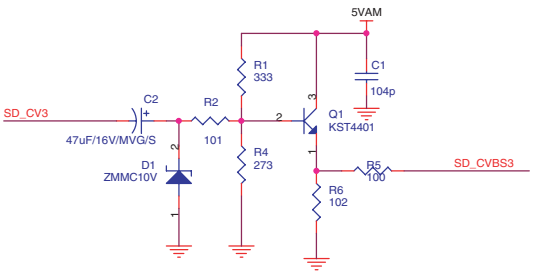
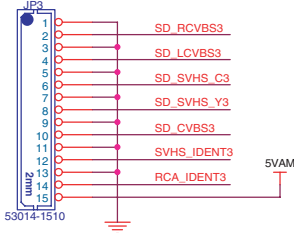
D02

3.20.4 SUB SIDE AV ASSY

Video_Input

AV3

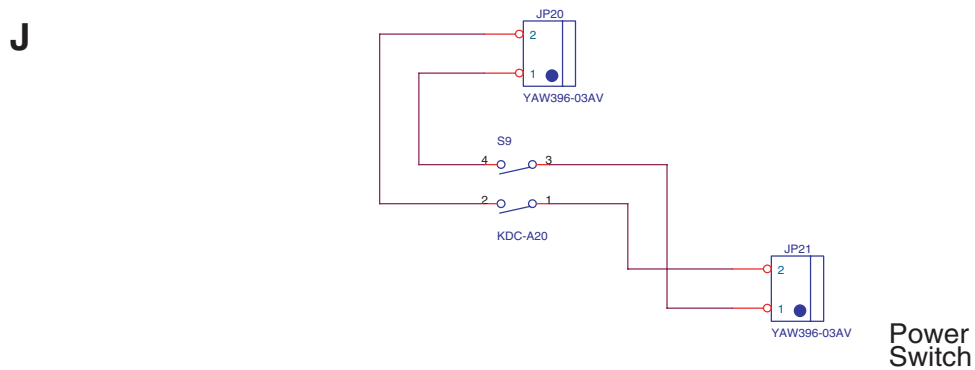
S-Video_Input



D03

D03

3.20.5 SUB POWER SWITCH ASSY

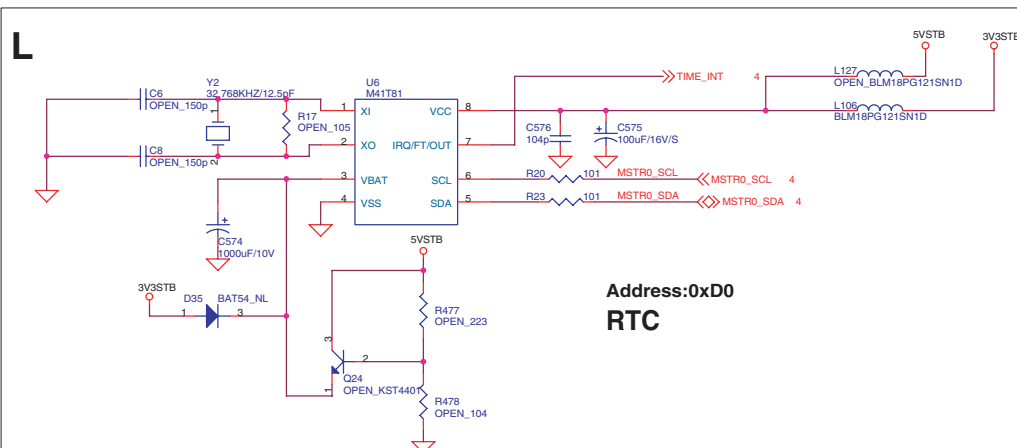
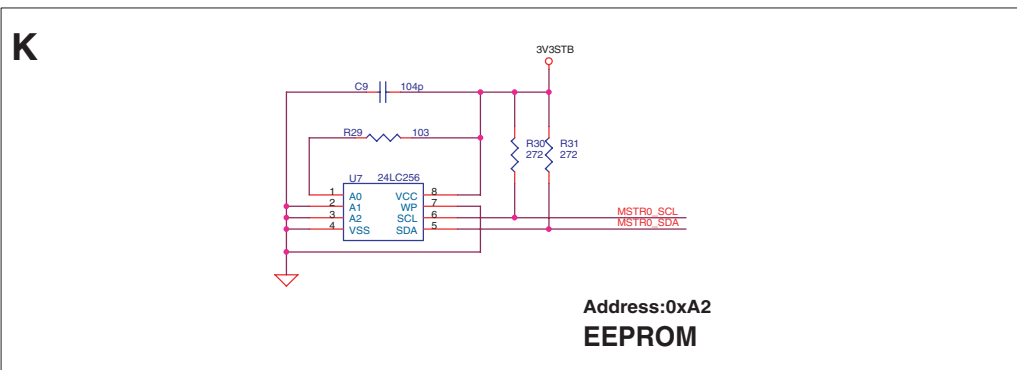


D04

D04

3.20.6 MAIN ASSY (1/18)

- RTC



D04

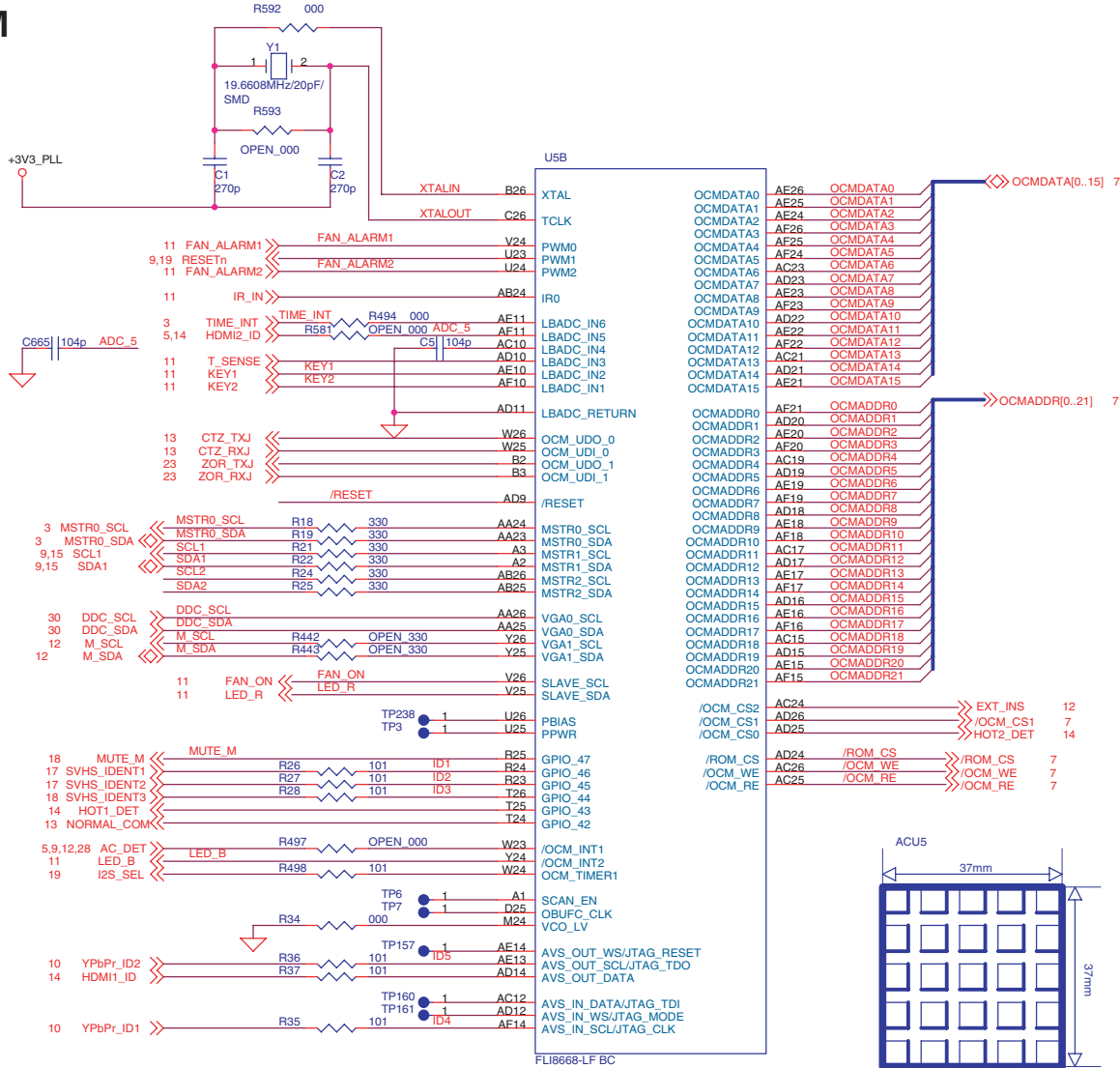
D04

3.20.7 MAIN ASSY (2/18)

• FLI8668 Miscellaneous IO and Circuitry

A

M



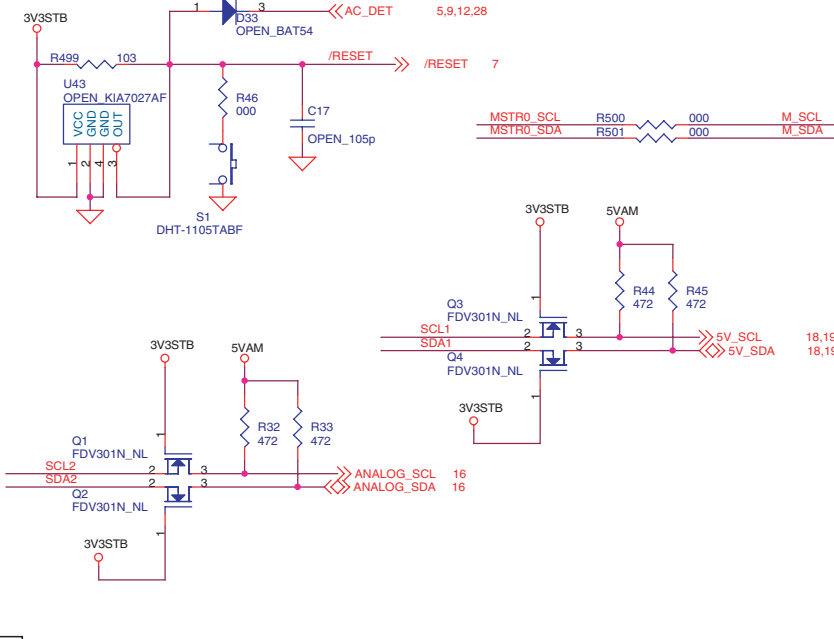
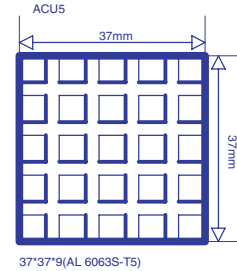
B

C

D

E

F

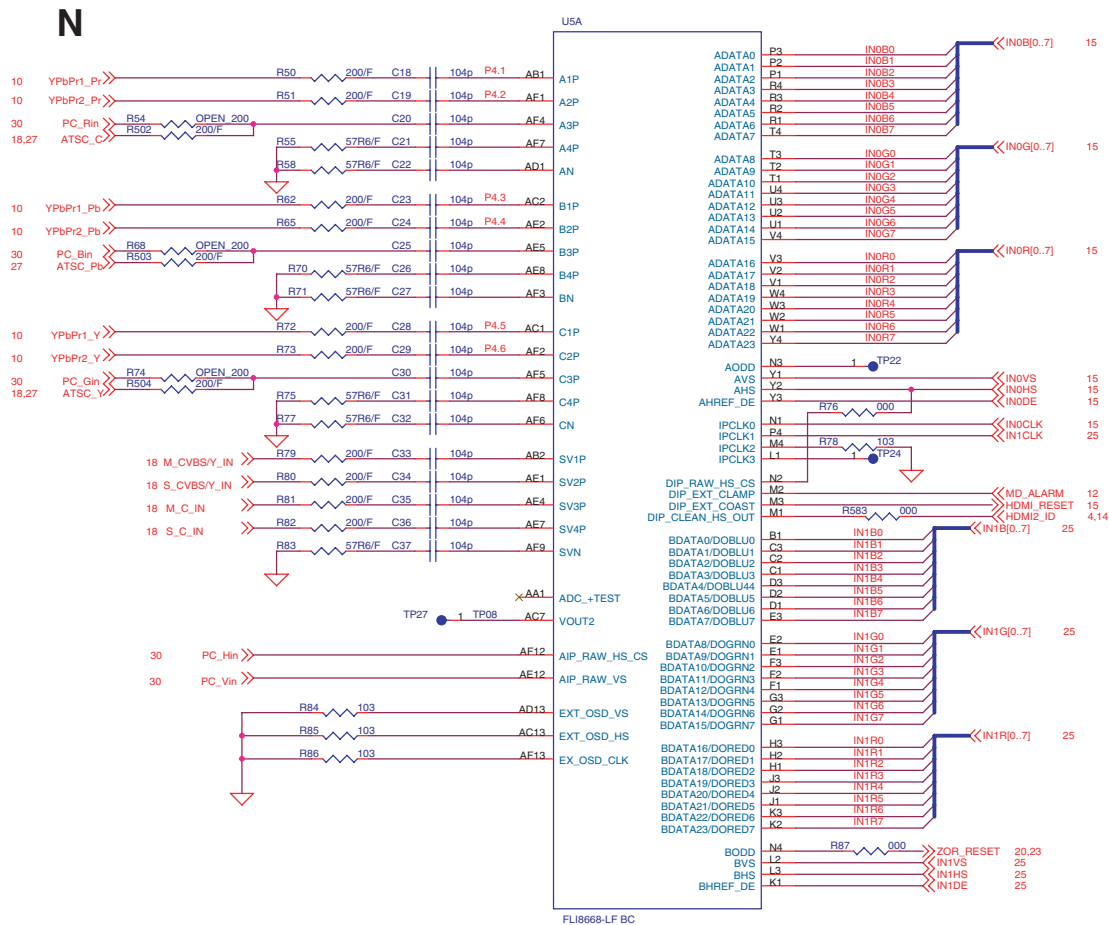


D05

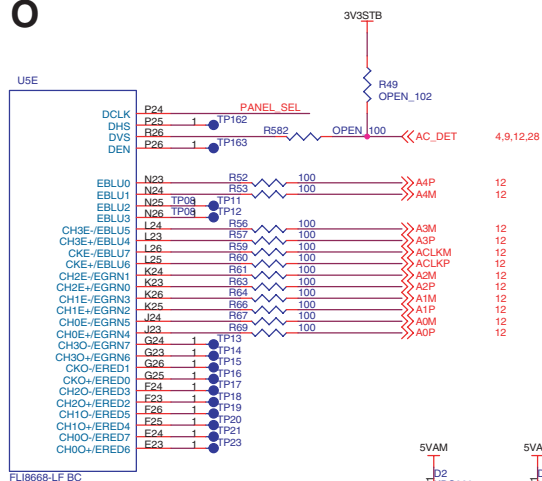
D05

3.20.8 MAIN ASSY (3/18)

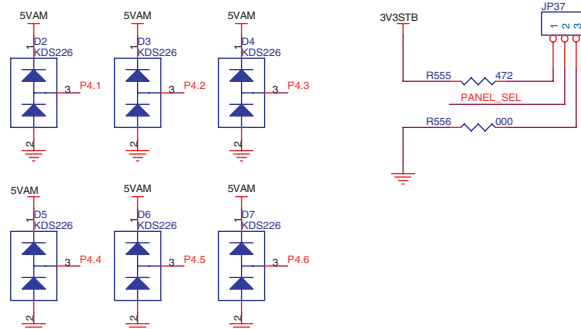
• FLI8668 Input/Output



O



H7 (42")	1-2
X7 (50")	2-3



D06

D06

PDP-5016HD

4

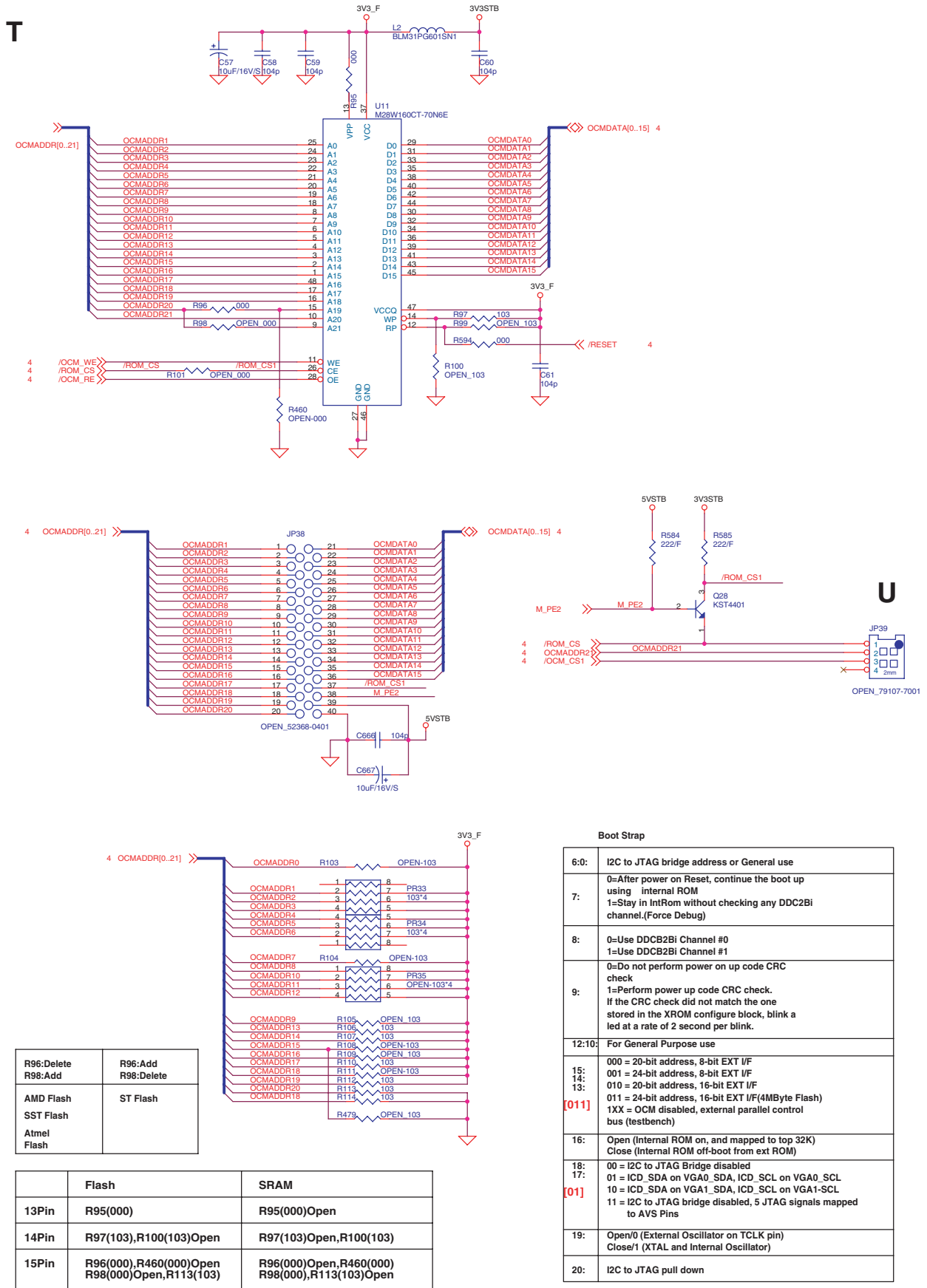
A



4

3.20.10 MAIN ASSY (5/18)

• FLI8668 Flash Memory



D08

D08

3.20.11 MAIN ASSY (6/18)

• FLI8668 Power

A

B

C

D

E

F

V

W

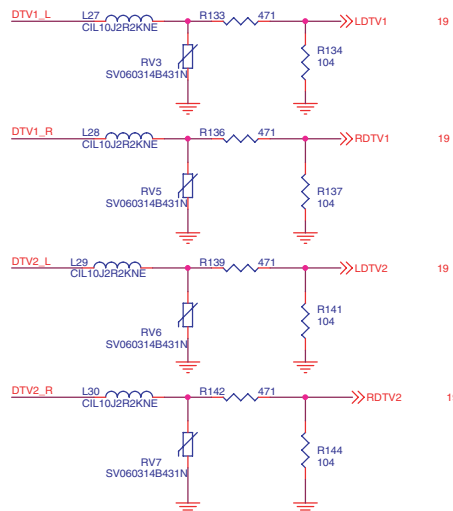
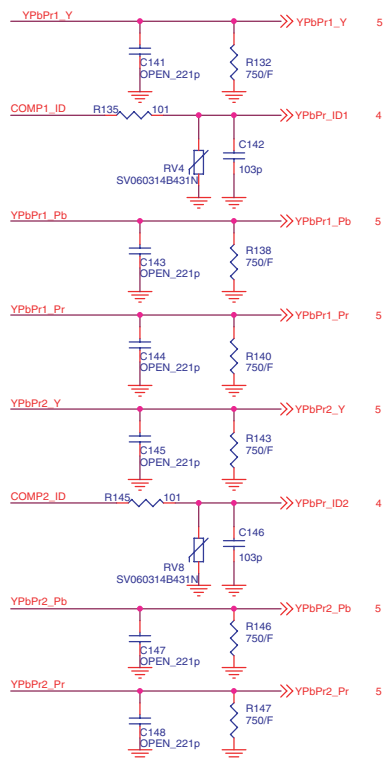
• Audio AMP

D09

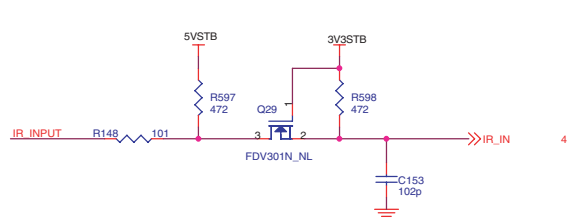
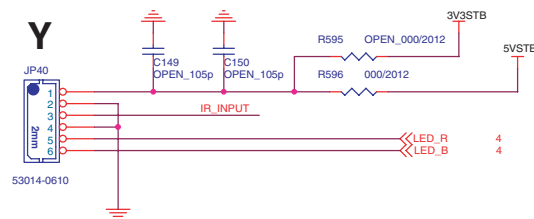
D09

PDP-5016HD

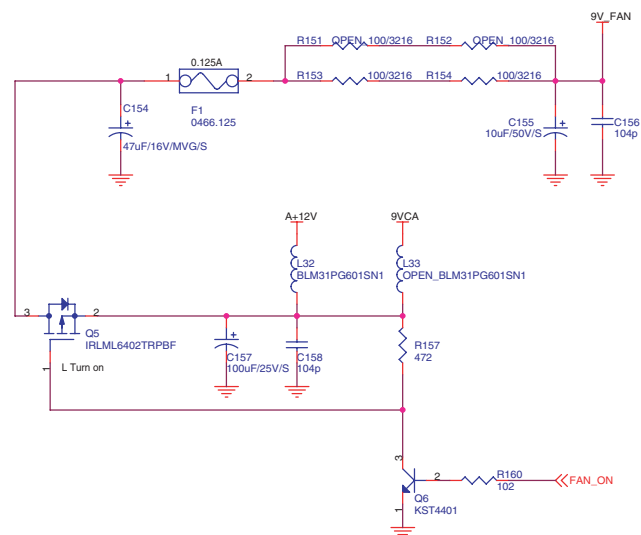
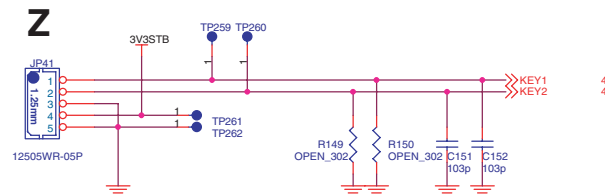
X



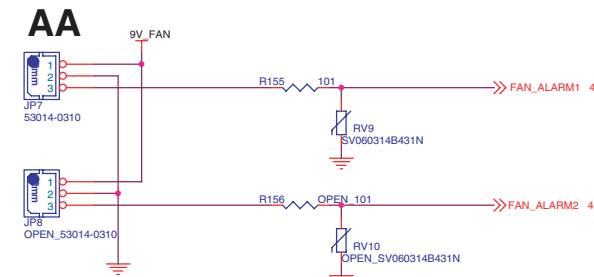
Y



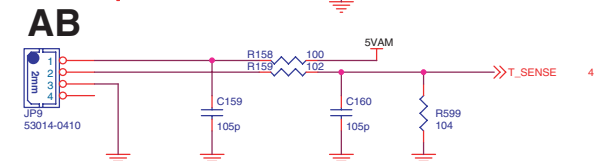
Z



AA



AB



D10

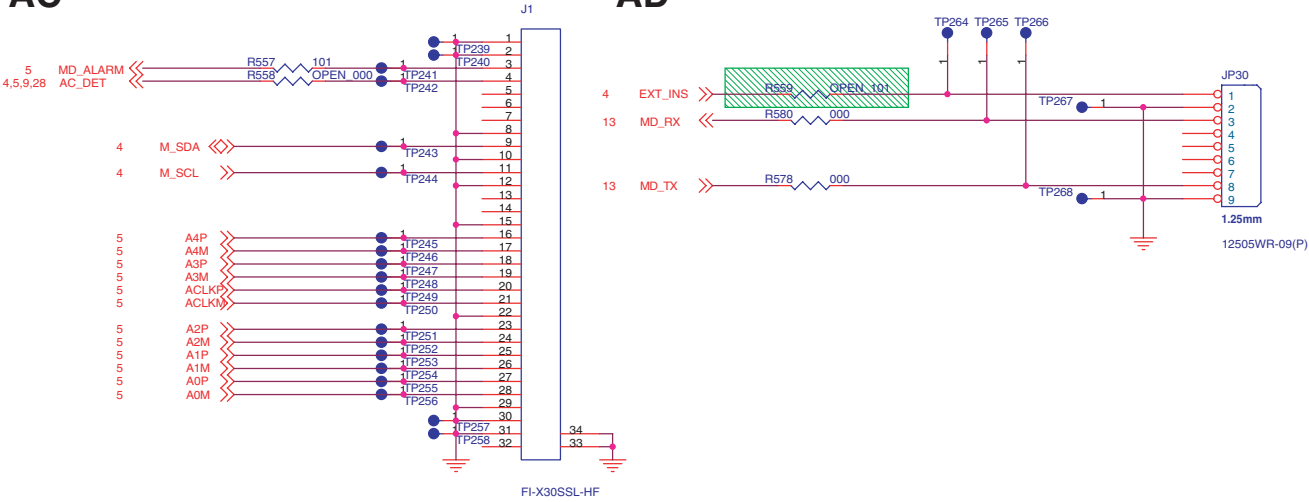
3.20.13 MAIN ASSY (8/18)

• LVDS & Module interface

A

AC

AD



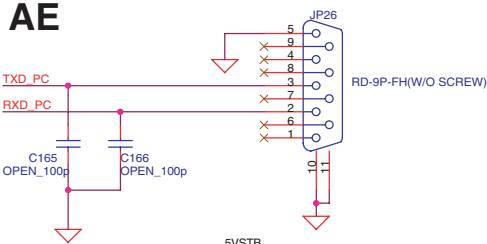
B

• UART

C

AE

UART

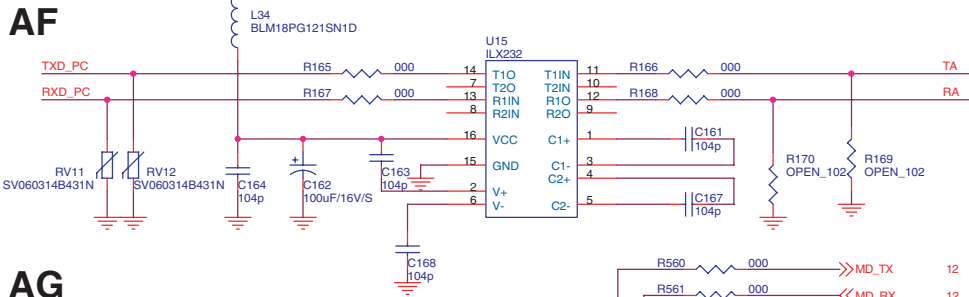


H	2G	CORTEZ(Normal)
L	1G	ZORAN

H	2G	CORTEZ/ZORAN
L	1G	PDP MODULE

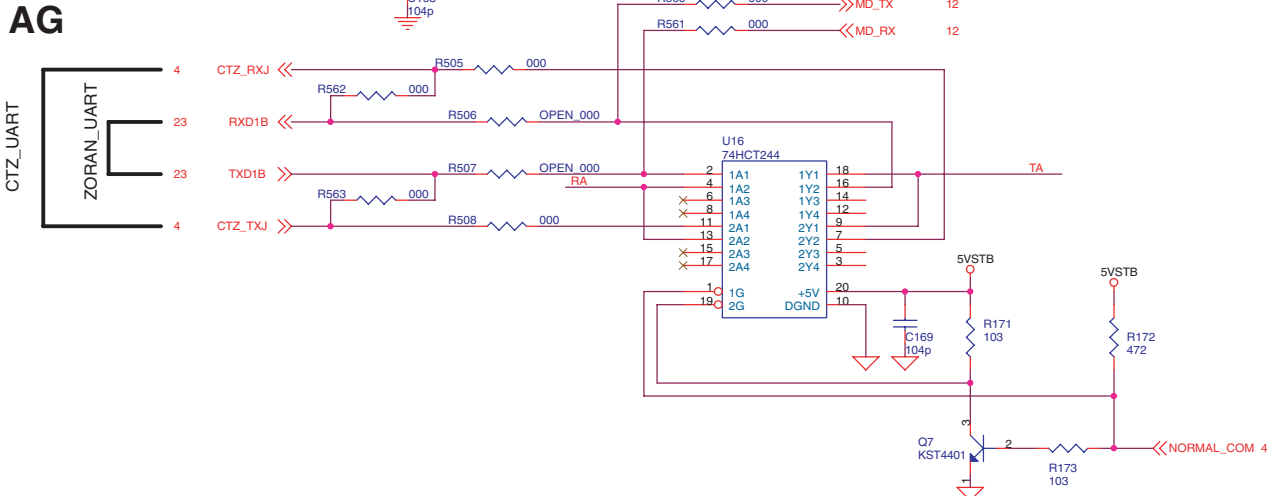
D

AF



E

AG



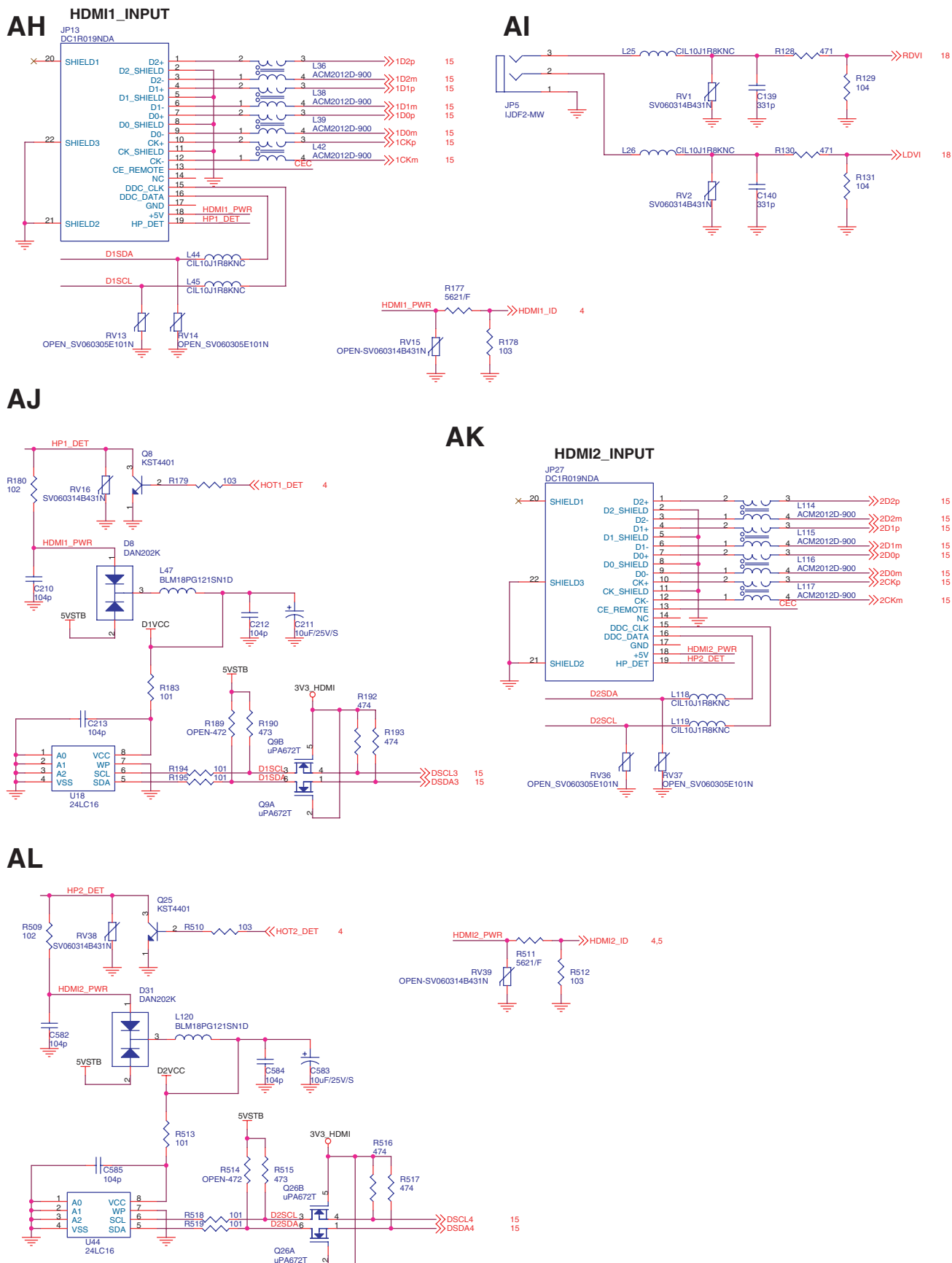
F

D11

D11

3.20.14 MAIN ASSY (9/18)

• HDMI Input



D12

D12

3.20.15 MAIN ASSY (10/18)

• HDMI Receiver

AM

HDMI1_INPUT

HDMI2_INPUT

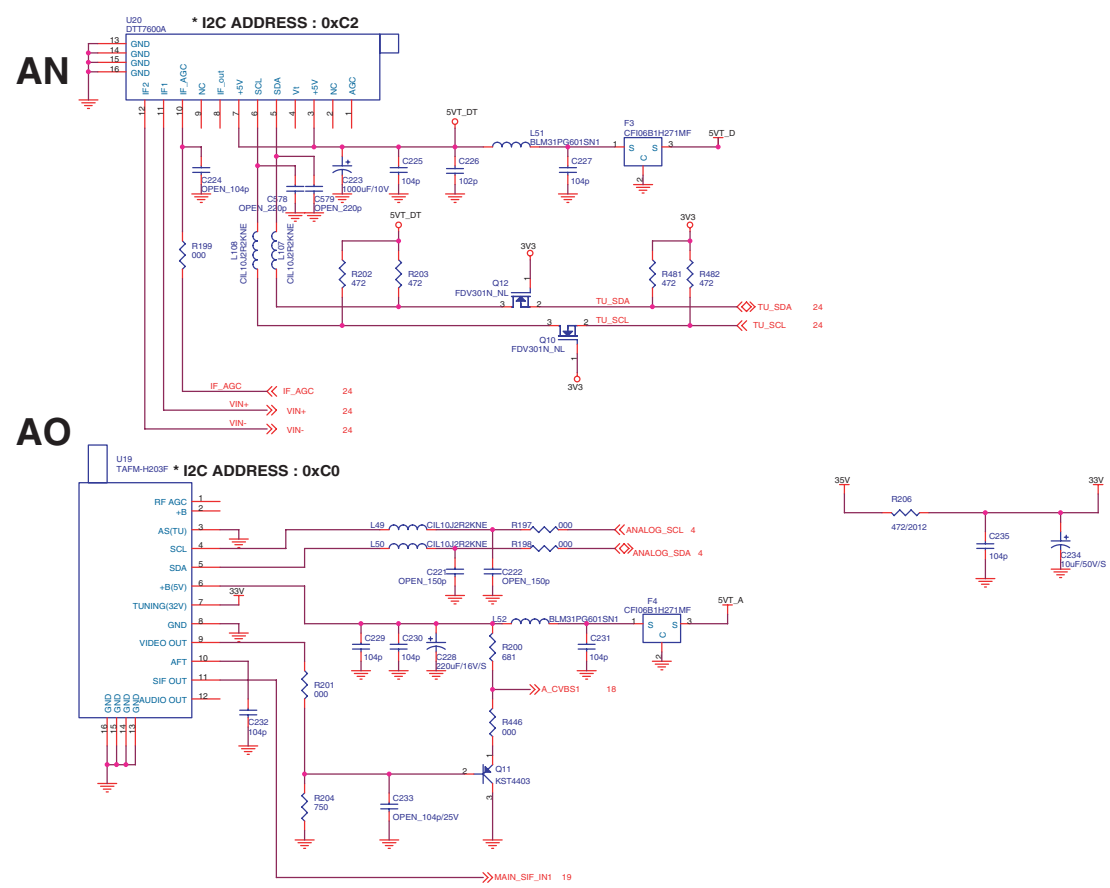
1ST:0x60h
2ND:0x68h

D13

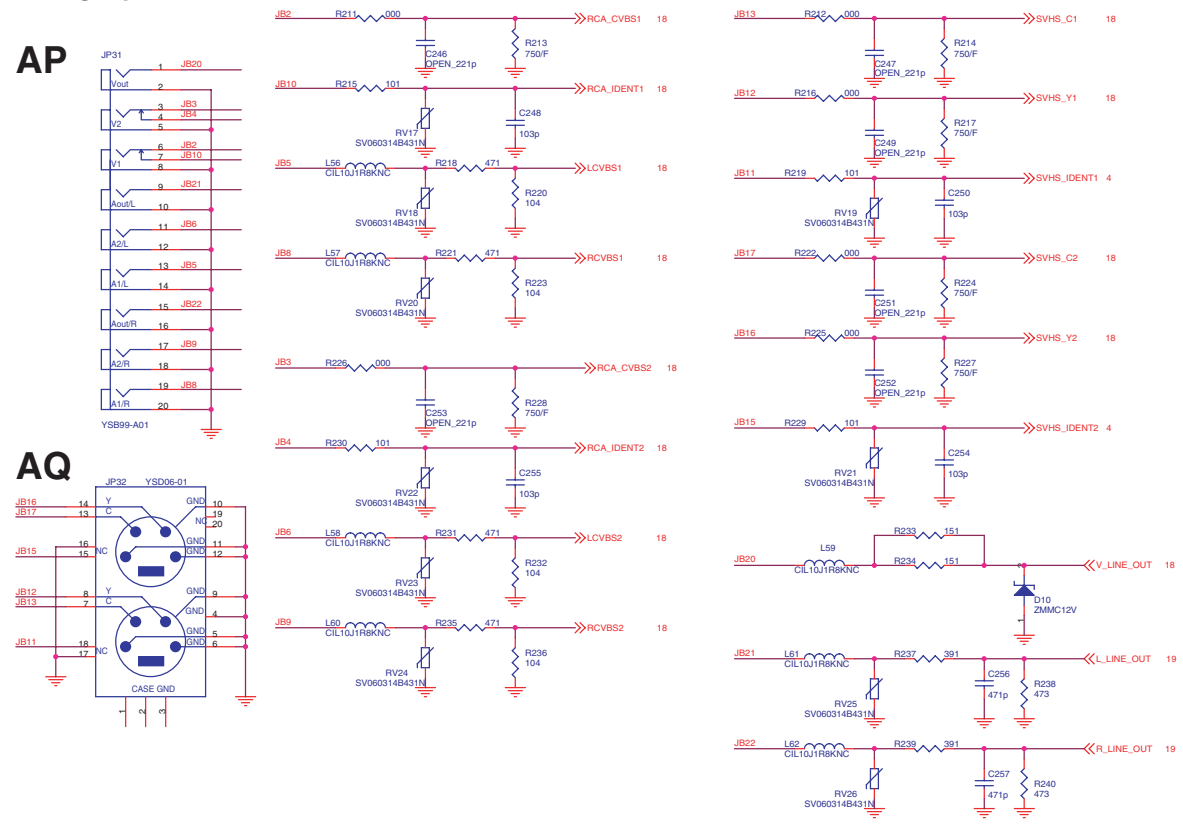
D13

PDP-5016HD

• Tuner



• Analog Input



D14

D14

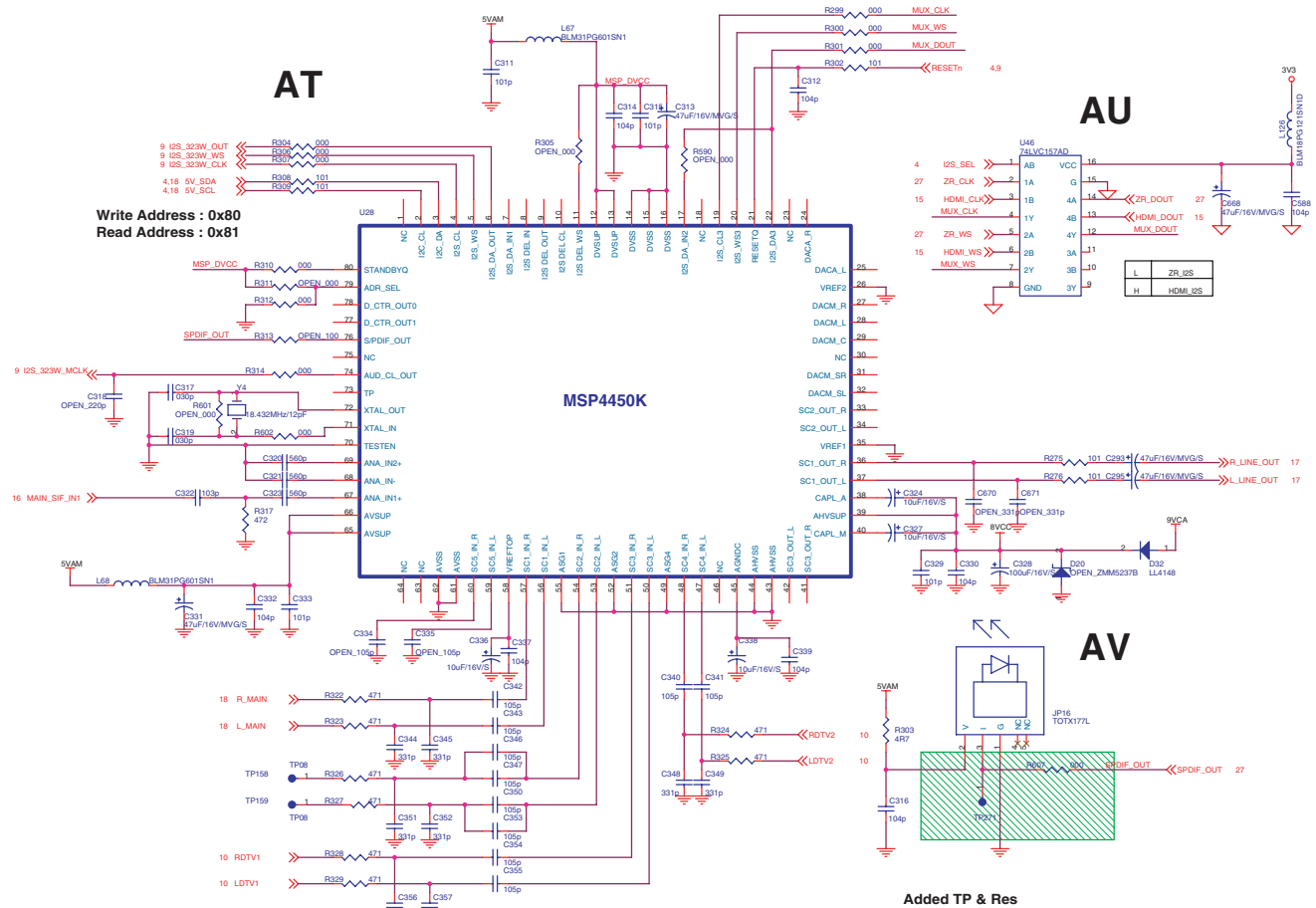
A



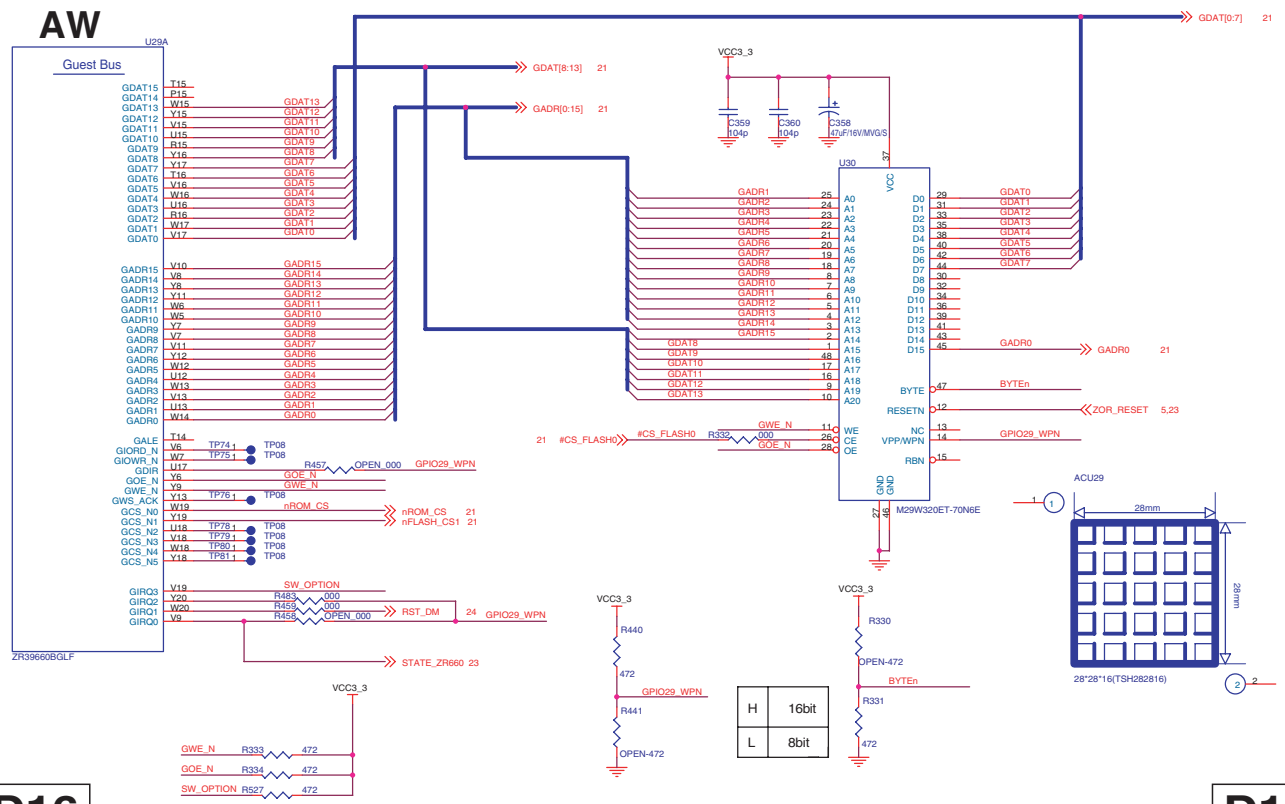
D15

3.20.18 MAIN ASSY (13/18)

• MSP4450K



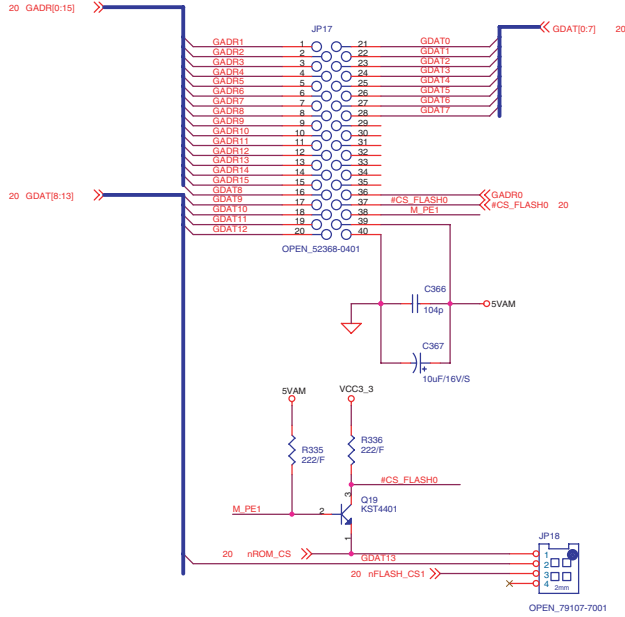
• HD660 Flash



3.20.19 MAIN ASSY (14/18)

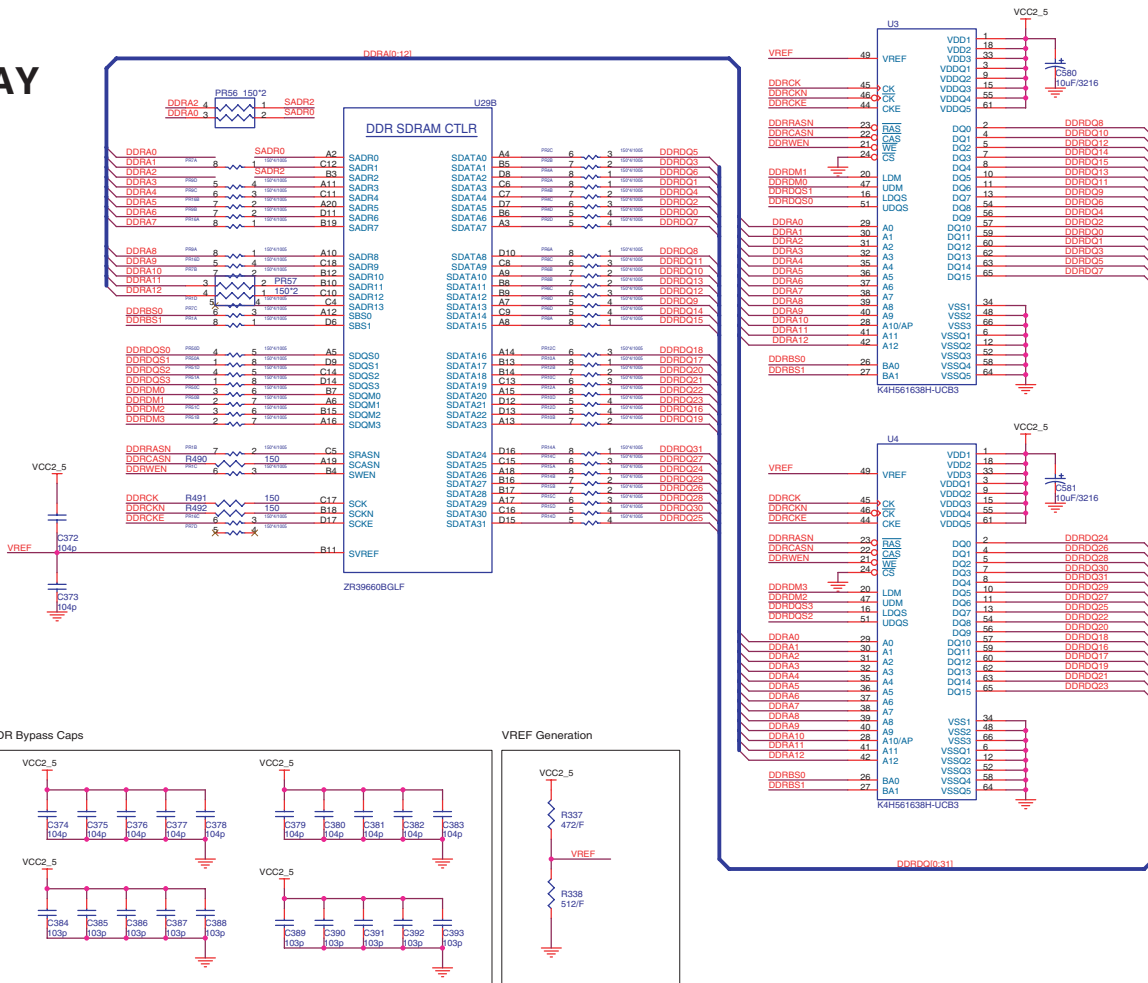
• HD660 ROM CON

AX



• HD660 DDR SDRAM

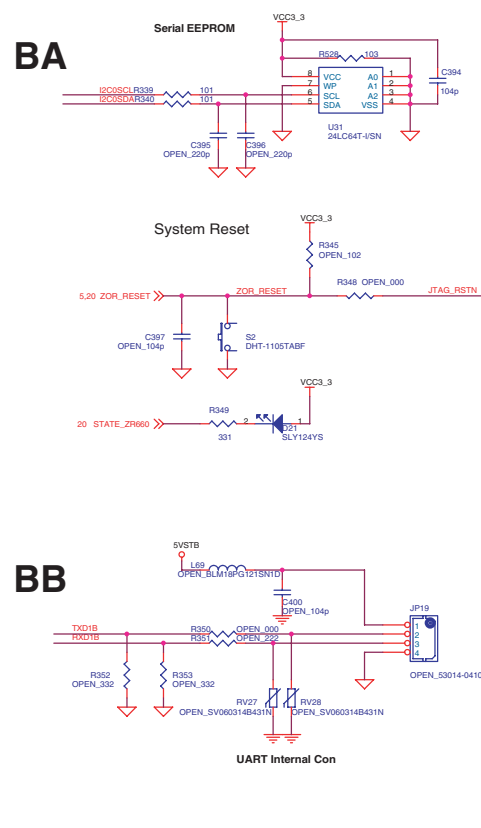
AY



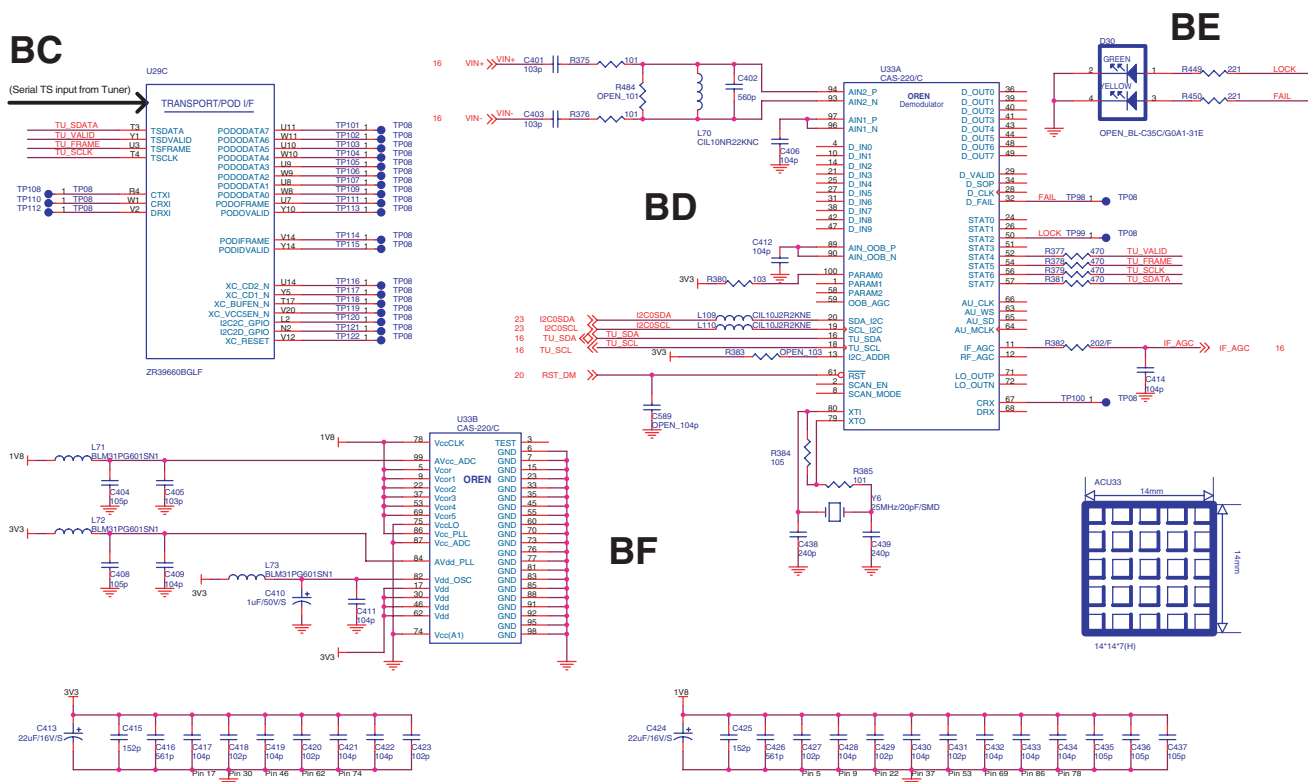
D17

D17

- HD660 SIO I/F

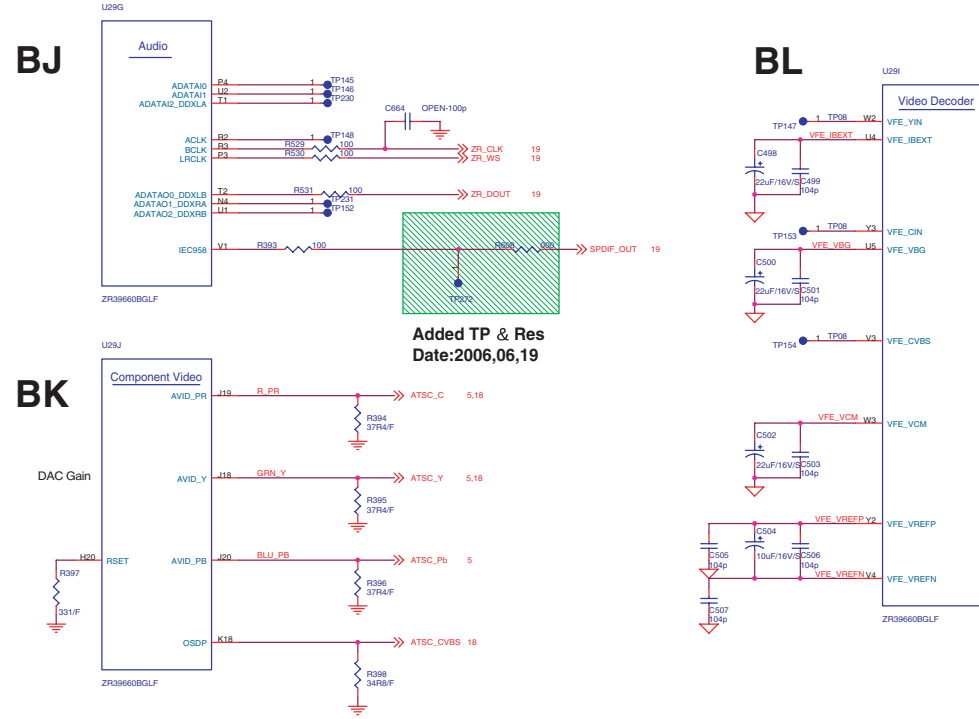


- **ATSC Demodulator**

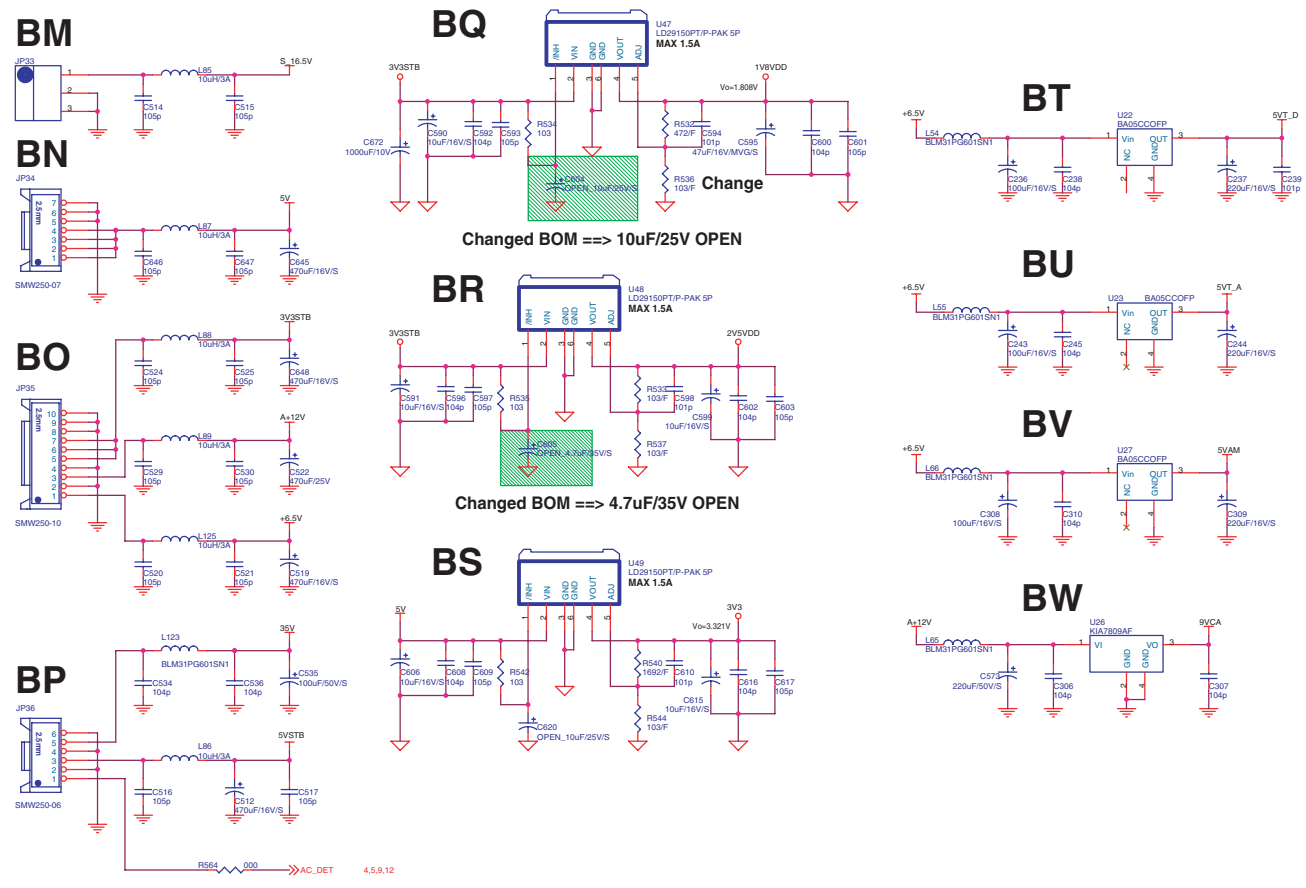


D18

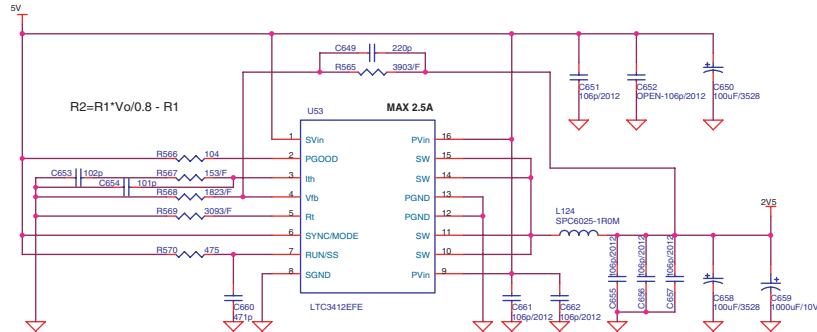
• Video/Audio IF



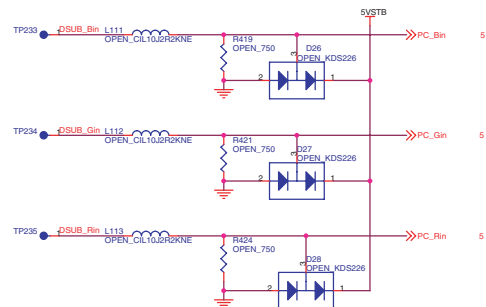
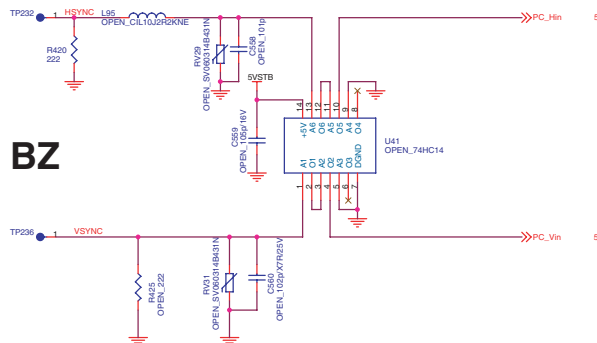
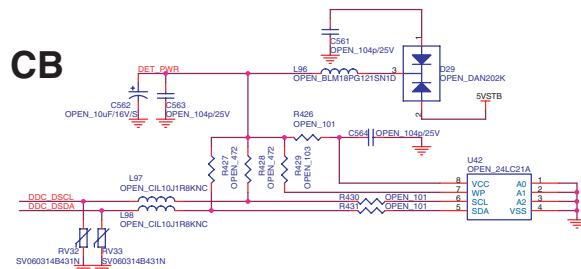
• Power1



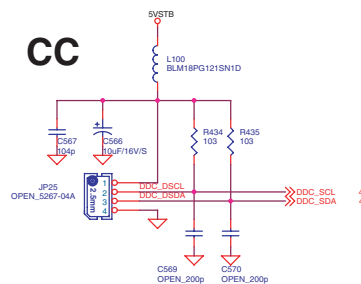
C



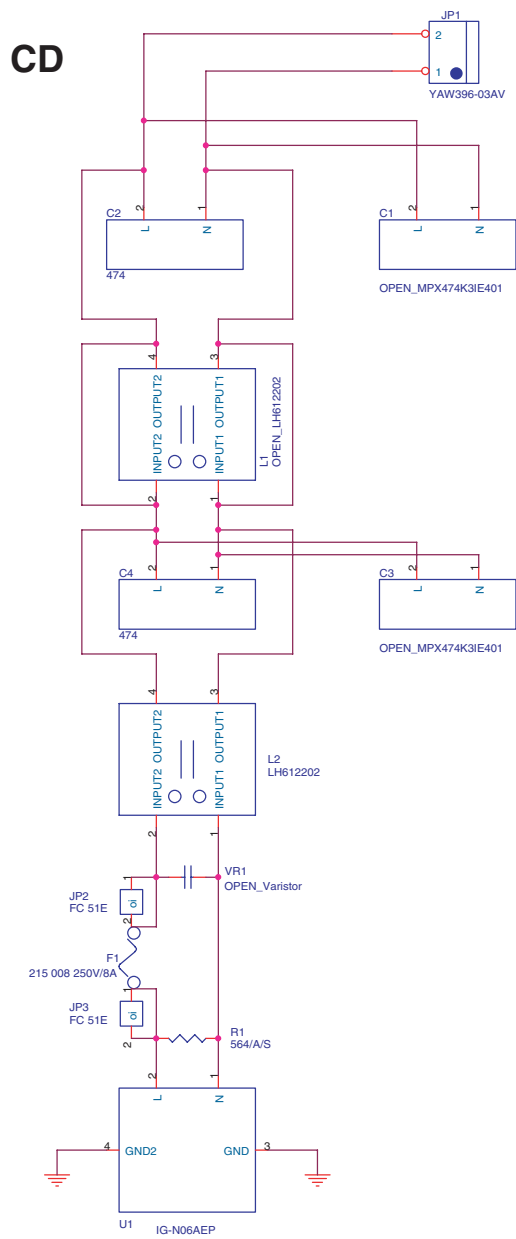
D

**CB**

CC



D21



D22

D22

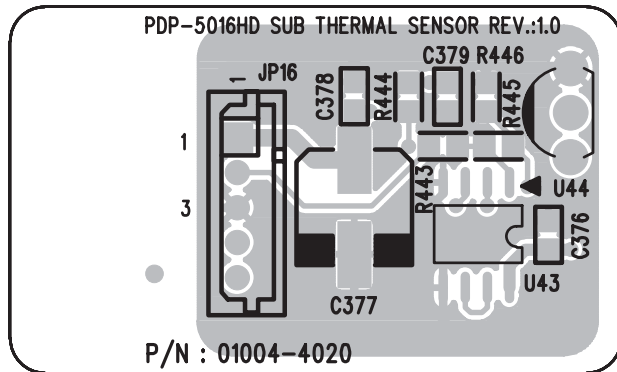
4. PCB CONNECTION DIAGRAM

4.1 PCB DIAGRAM (PDP-5016HD)

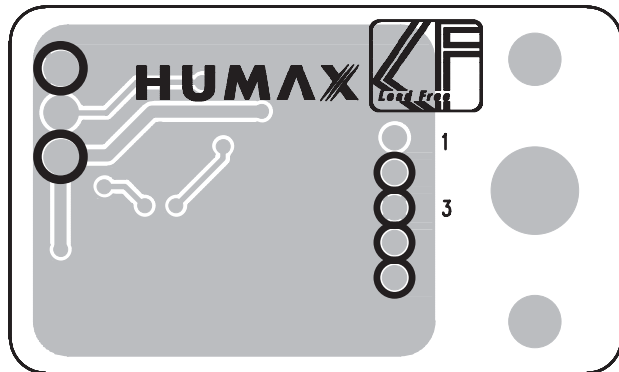
4.1.1 SUB THERMAL SENSOR, SUB POWER SWITCH AND SUB KEY ASSYS

• SUB THERMAL SENSOR ASSY

SIDE A

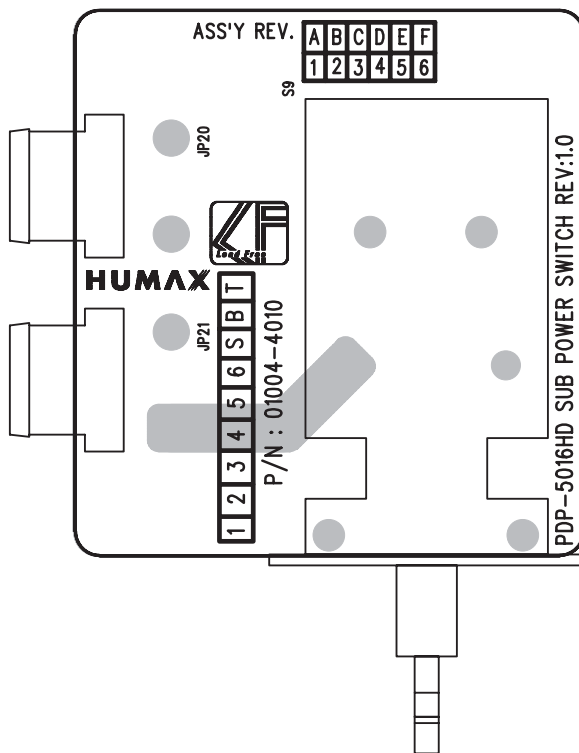


SIDE B

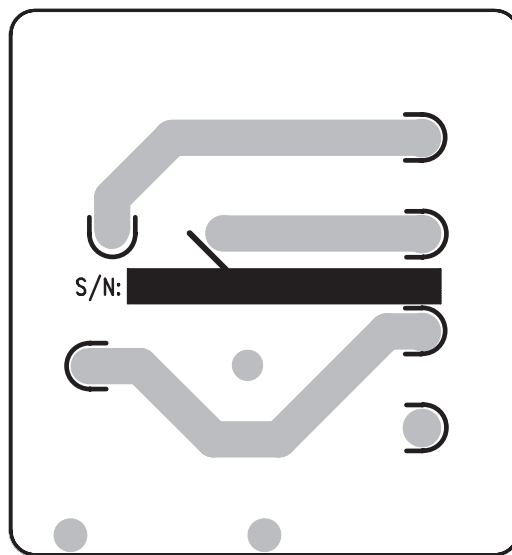


• SUB POWER SWITCH ASSY

SIDE A

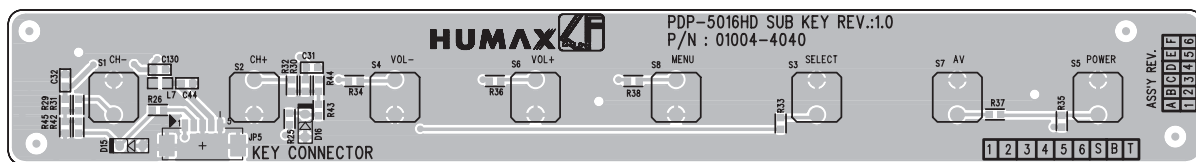


SIDE B

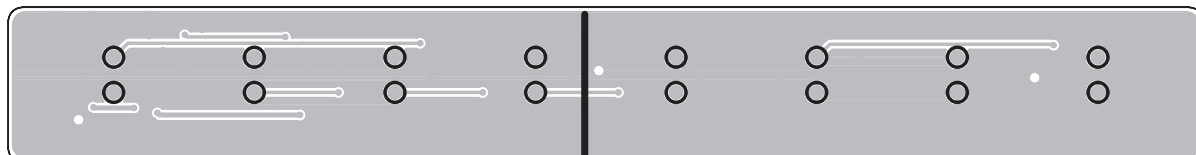


• SUB KEY ASSY

SIDE A

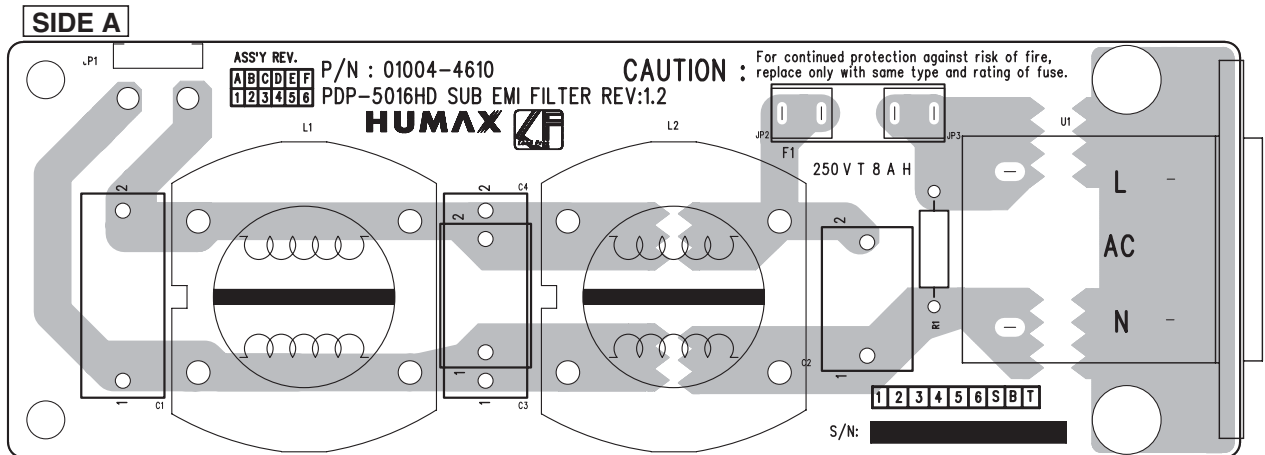


SIDE B

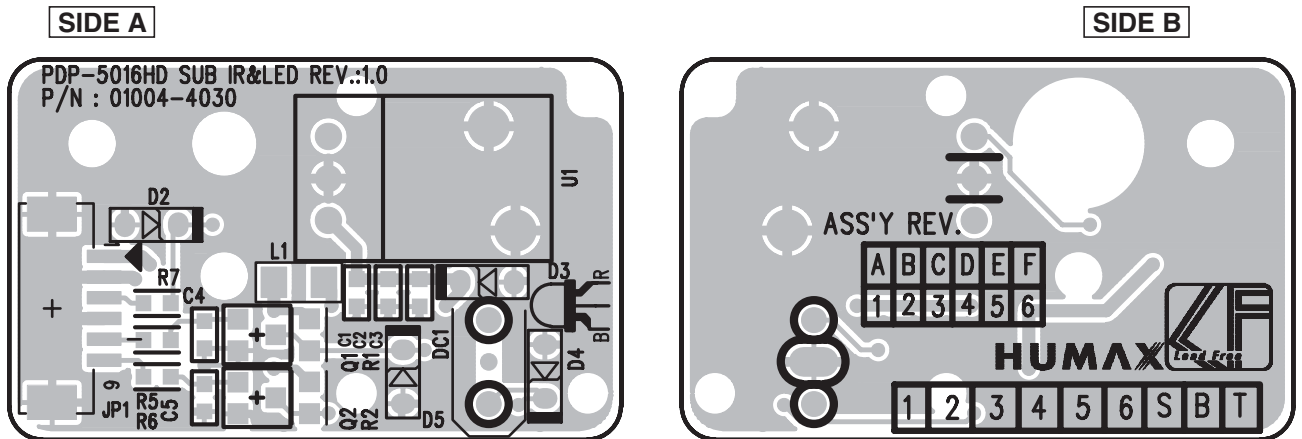


4.1.2 SUB EMI FILTER , SUB IR&LED AND SUB SIDE AV ASSYS

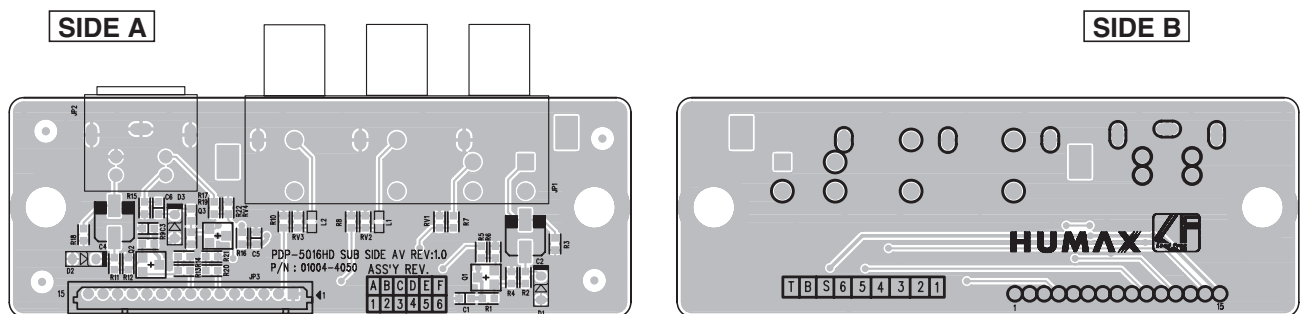
• SUB EMI FILTER ASSY



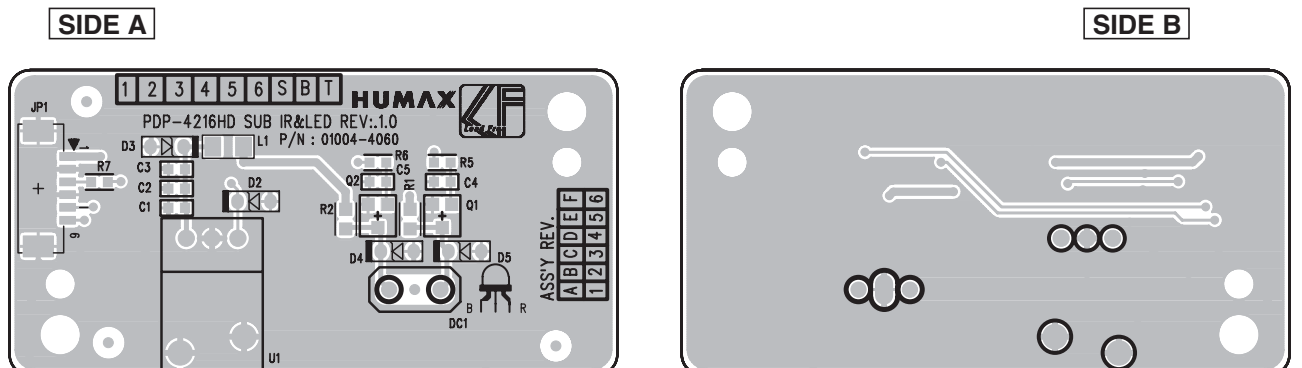
• SUB IR&LED ASSY (PDP-5016HD)



• SUB SIDE AV ASSY (PDP-5016HD)



• SUB IR&LED ASSY (PDP-4216HD)



△

A

B

C

D

F

F

1

2

3

4

PDP-5016HD

D15-AR

T06

T07

10

4



F



A

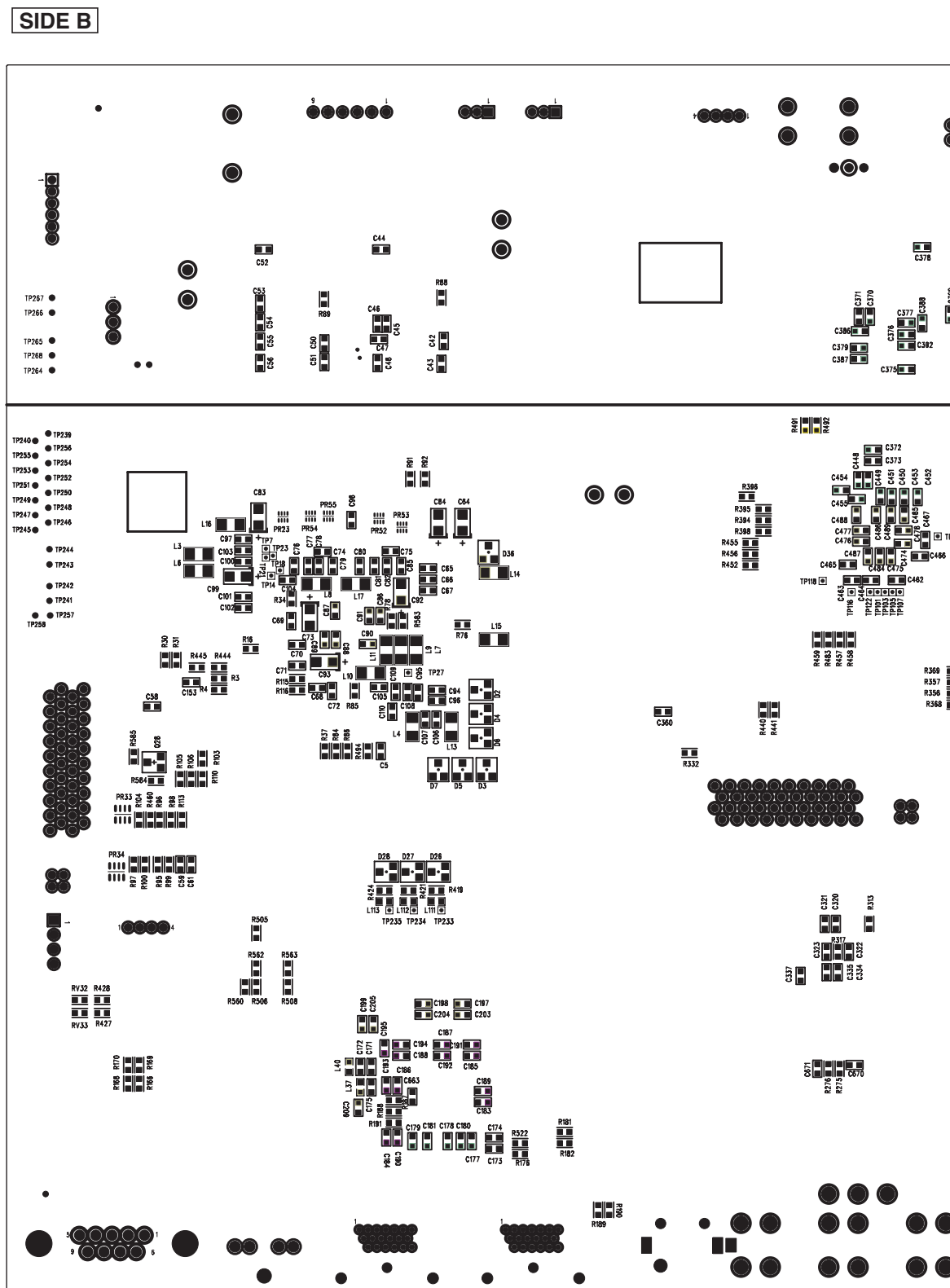
B

C

D

E

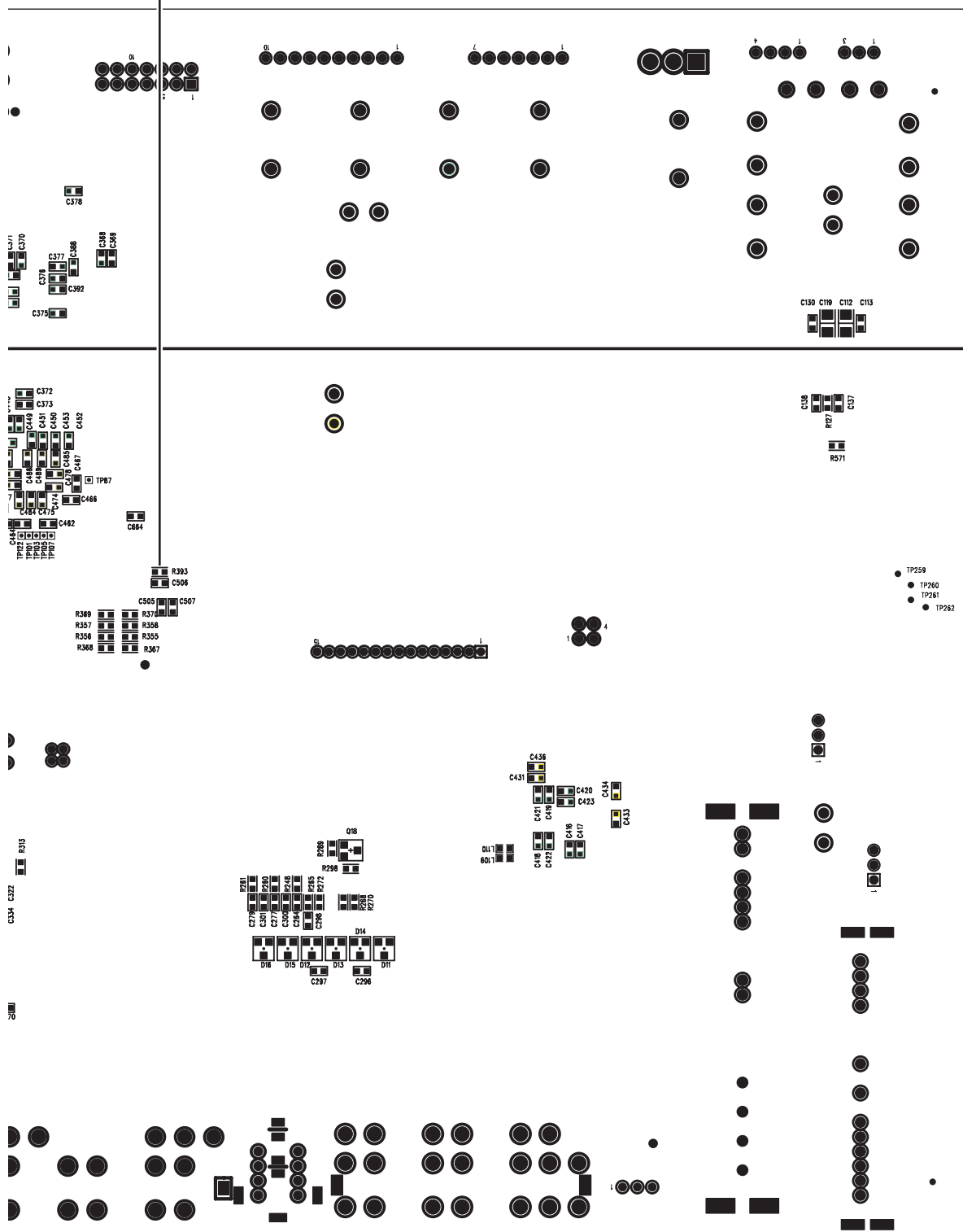
F



D20 -BJ
T17

R393

SIDE B

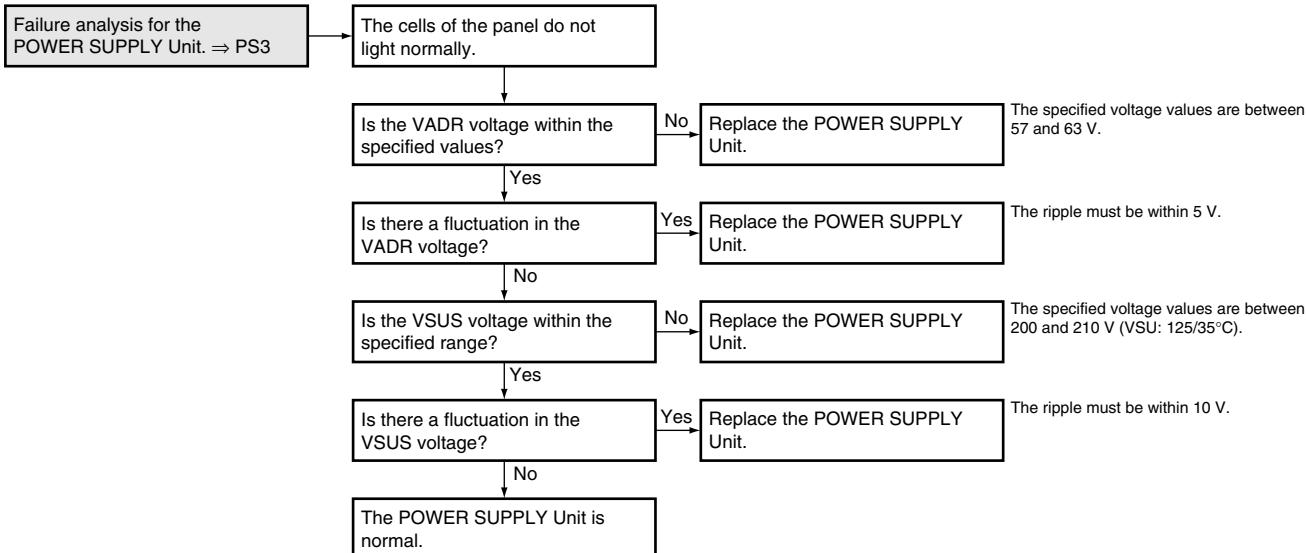
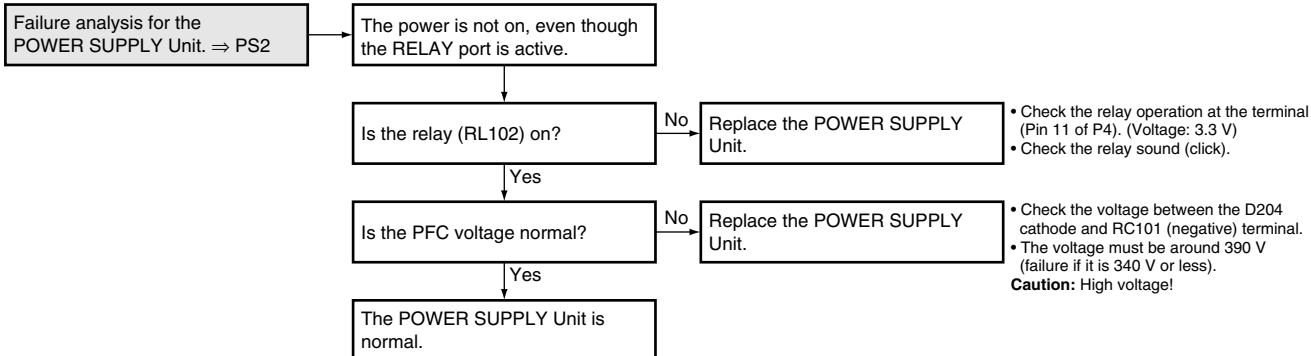
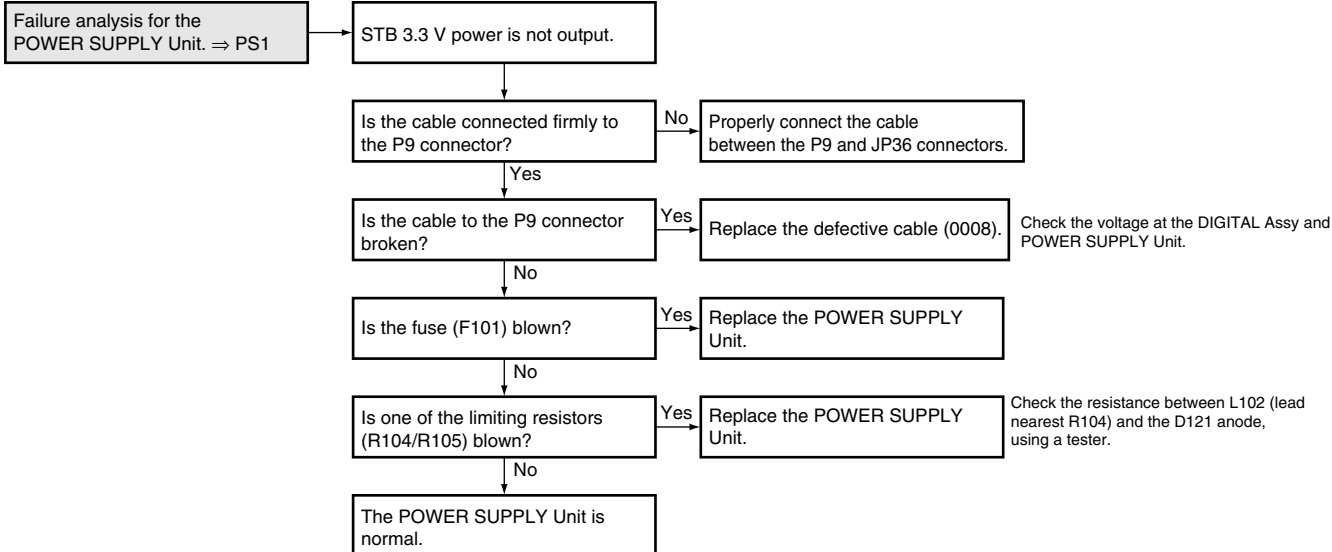


5. DIAGNOSIS

5.1 TROUBLESHOOTING

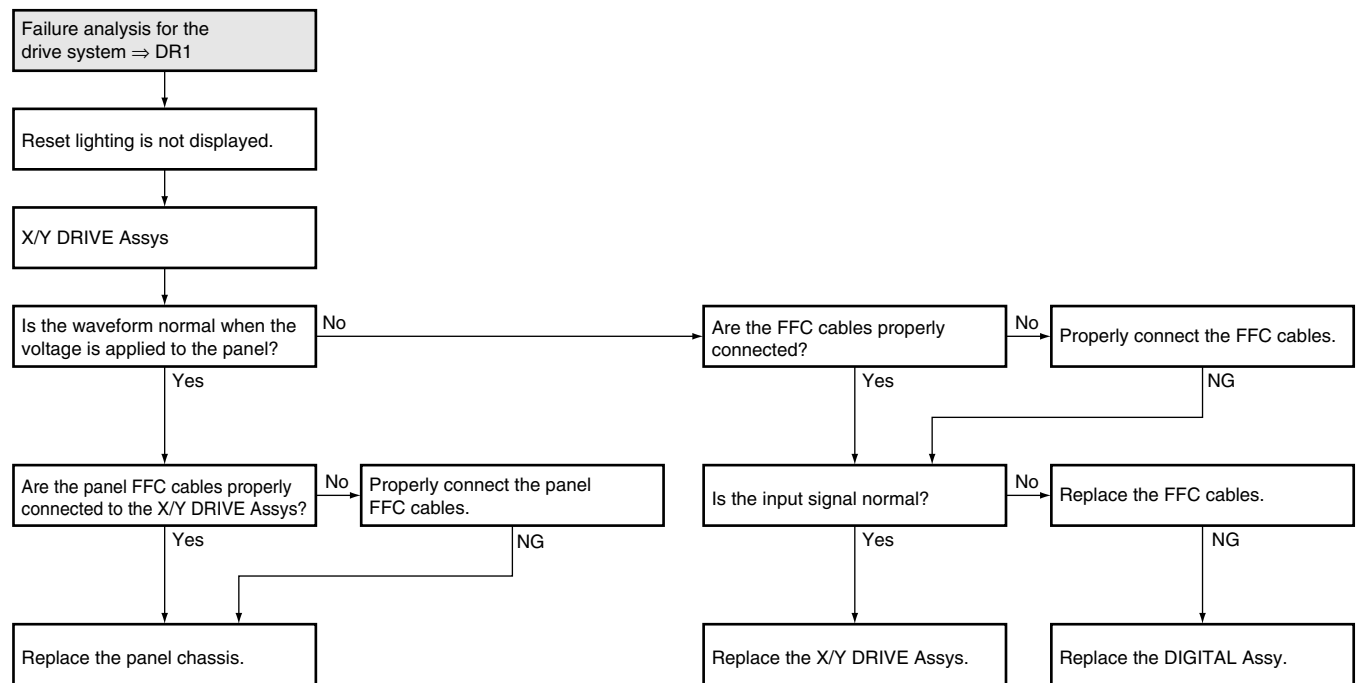
5.1.1 FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit



5.1.2 FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY

Flowchart of Failure Analysis for The Drive Assy



A

Failure analysis for the drive system ⇒ DR2

Abnormality across the whole screen, such as luminescent spots

Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.

Y DRIVE Assy / SCAN A, B Assy

X DRIVE Assy

ADDRESS Assy

Ⓑ

Ⓒ

B

Are all the connectors properly connected?

No

Reconnect the connectors.

NG

Yes

Is the VH set voltage (130 V) correctly set?

No

Set the VH voltage correctly.

NG

Yes

C

Is the VOFS set voltage correctly set (set value: designated for each panel)?

No

Set the VOFS voltage correctly.

NG

Yes

Is the VYRST set voltage correctly set (set value: designated for each panel)?

No

Set the VYRST voltage correctly.

NG

Yes

D

Another Assy may be in failure.

Yes

Is the waveform normal when the voltage is applied to the panel?
(See the oscilloscope photos.)

No

Ⓓ

Is the input signal normal?
(See the oscilloscope photos.)

No

Replace the FFC cables.

NG

Yes

Replace the DIGITAL Assy.

E

Is the waveform of the control signal from the SCAN Assy normal?
(See the oscilloscope photos.)

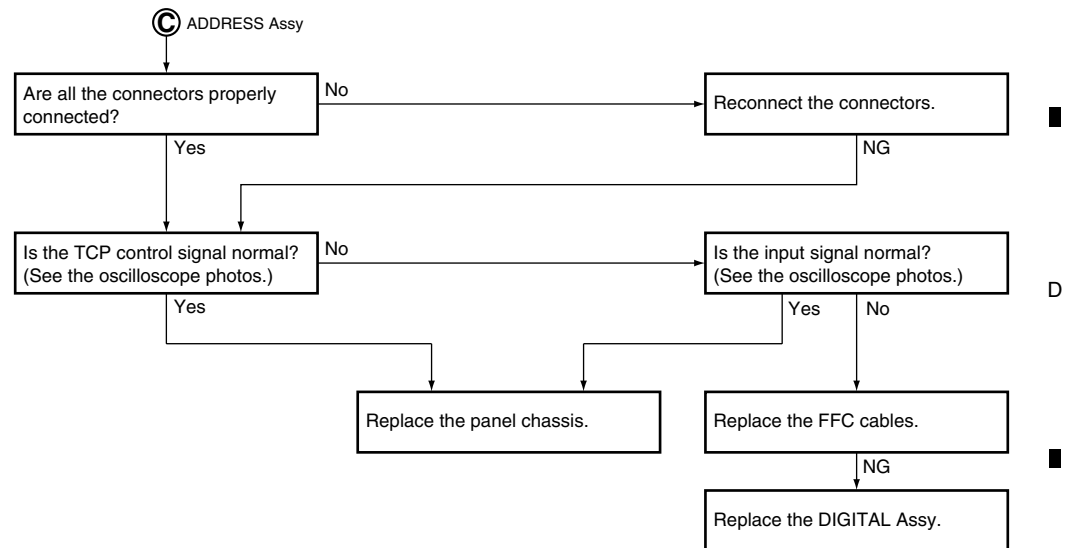
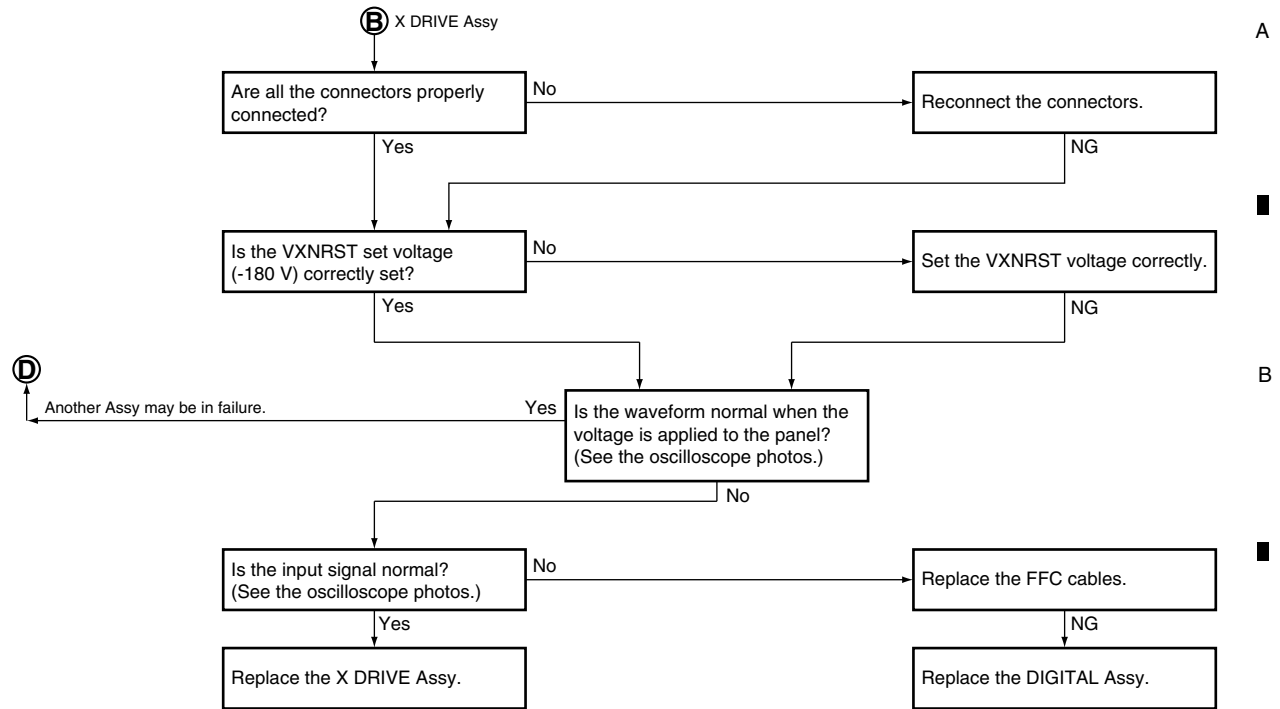
No

Replace the Y DRIVE Assy.

Yes

Replace the SCAN IC.

F



A

Failure analysis for the drive system ⇒ DR3

The abnormality is associated with one address or one TCP?

Diagnose the ADDRESS Assy.

Is the TCP control signal normal?
(See the oscilloscope photos.)

No

Are the FFC cables properly connected?

No

Properly connect the FFC cables.

NG

Yes

Yes

B

Replace the panel chassis.

In most cases of damage on one line, the panel chassis must be replaced.

Replace the DIGITAL Assy.

NG

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.

C

Failure analysis for the drive system ⇒ DR4

The abnormality is associated with a single scan line.

Diagnose the SCAN A and B Assys.

Is the waveform normal when the voltage is applied to the panel?

No

Is the cable connected properly to the 15-pin connector?

No

Connect the cable properly.

NG

Yes

Yes

D

Replace the SCAN IC.

NG

Replace the panel chassis.

Are the cables connected properly between the SCAN A and B Assys?

No

Reconnect the cables properly.

NG

Yes

Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?

Yes

No

Replace the Y DRIVE Assy.

E

Failure analysis for the drive system ⇒ DR5

The panel mask is not displayed properly.

Check with the slanting ramp mask that moves.

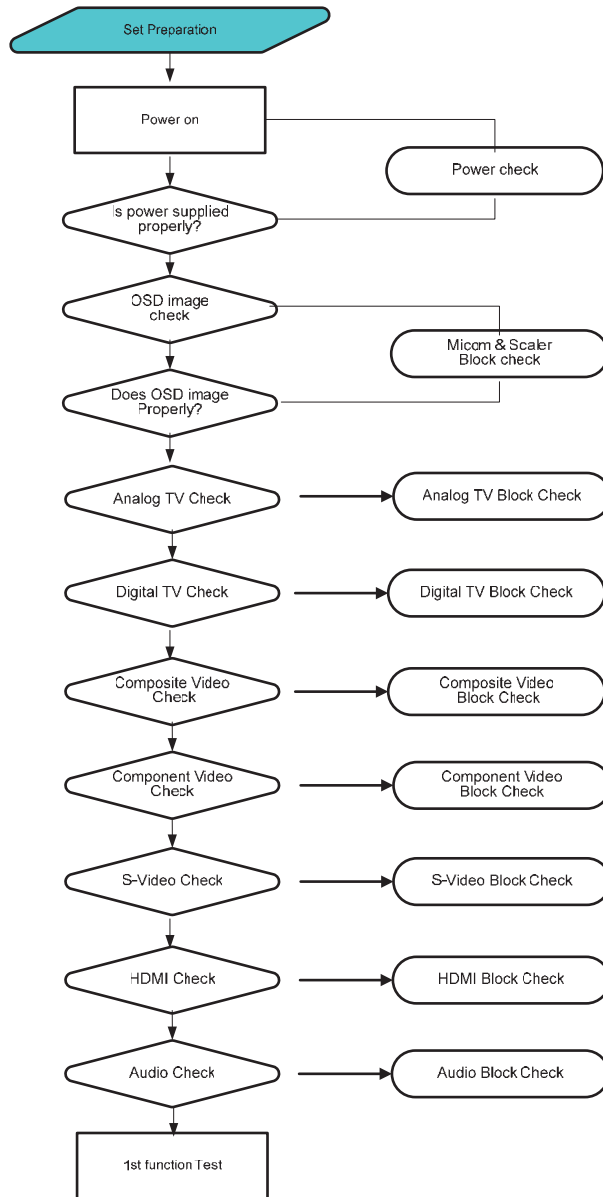
Yes

Failure analysis for the drive system ⇒ DR2

F

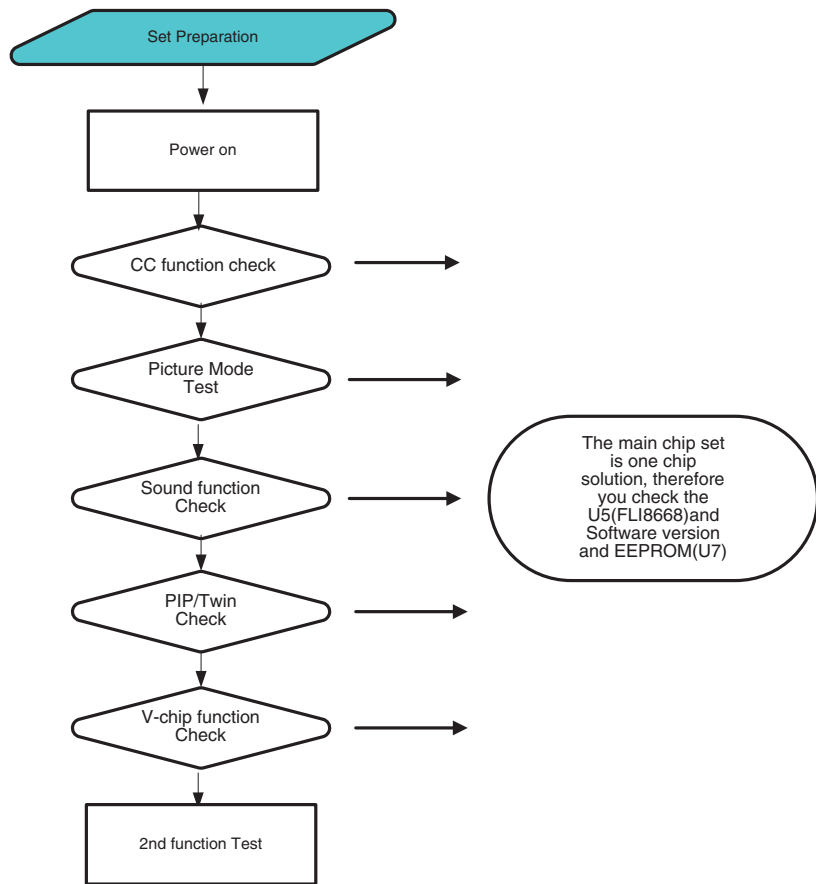
Flowchart of Failure Analysis

1) Basic Function Test



A

2) Detailed Function Test



C

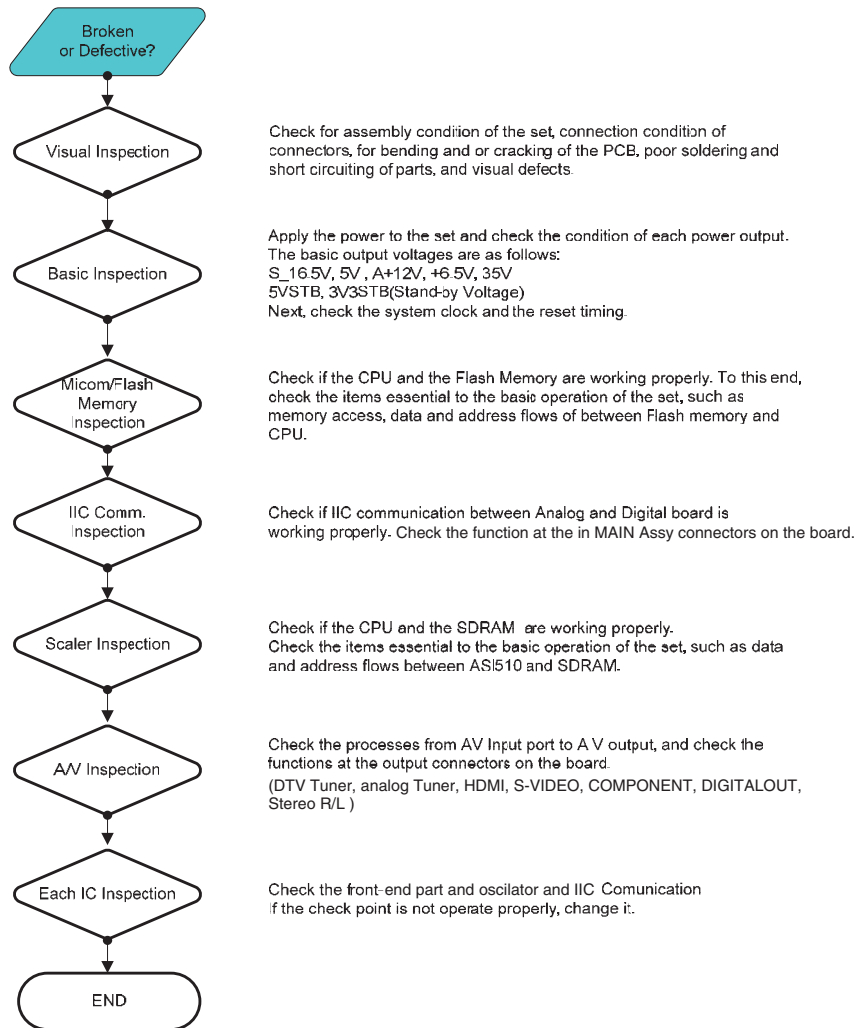
D

E

F

3) Troubleshooting Guideline

I. It is recommended that the repair of broken and or defective sets should follow the recommended flow as described below:



II. The illustrations and waveforms contained in this manual may differ depending on the system condition and the signal being received. Use them only as a reference material. What is important is to identify the location of the problem by tracing the flow of related signals.
It is recommended that you refer to the following example waveforms just as a reference material for a pattern of related signals.

A

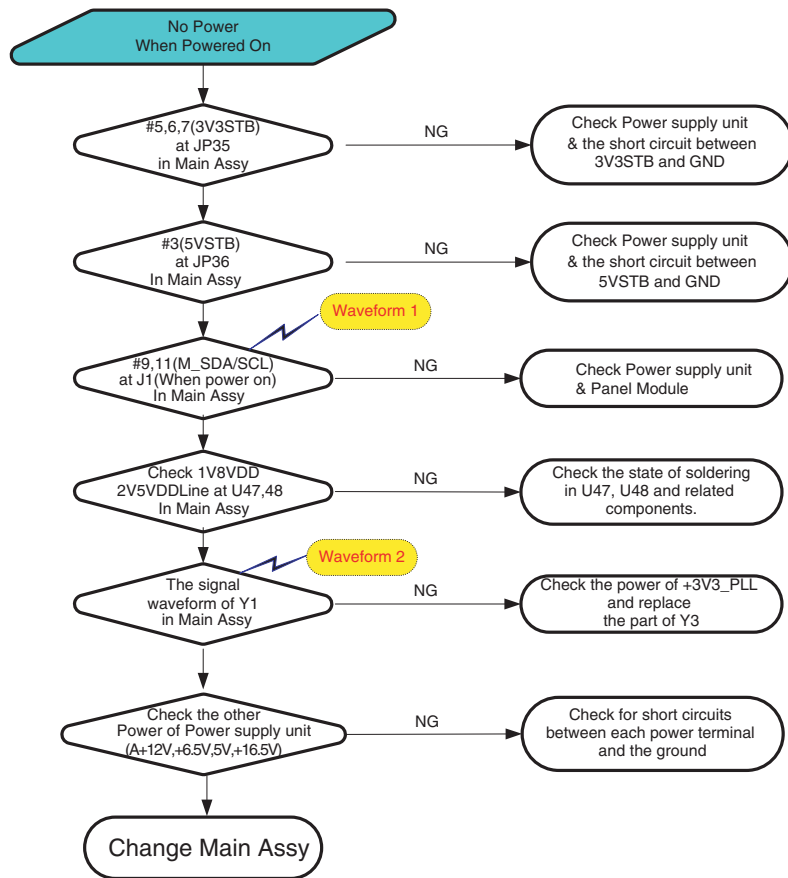
4) No Power

- ❖ Check the condition of the input power & cable connection.
(JP35(3V3STB, A+12V, +6.5V), JP36(5VSTB,35V), JP34(5V), JP33(S_16.5V))
- ❖ Check the condition of on-board regulators.
- ❖ Check for short circuits between each power terminal and the ground.

B

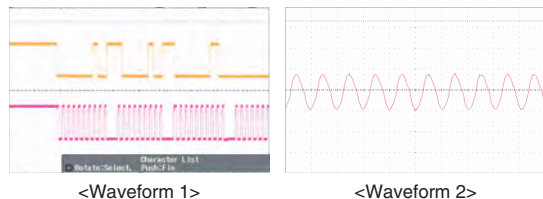
C

D



• Waveform

E



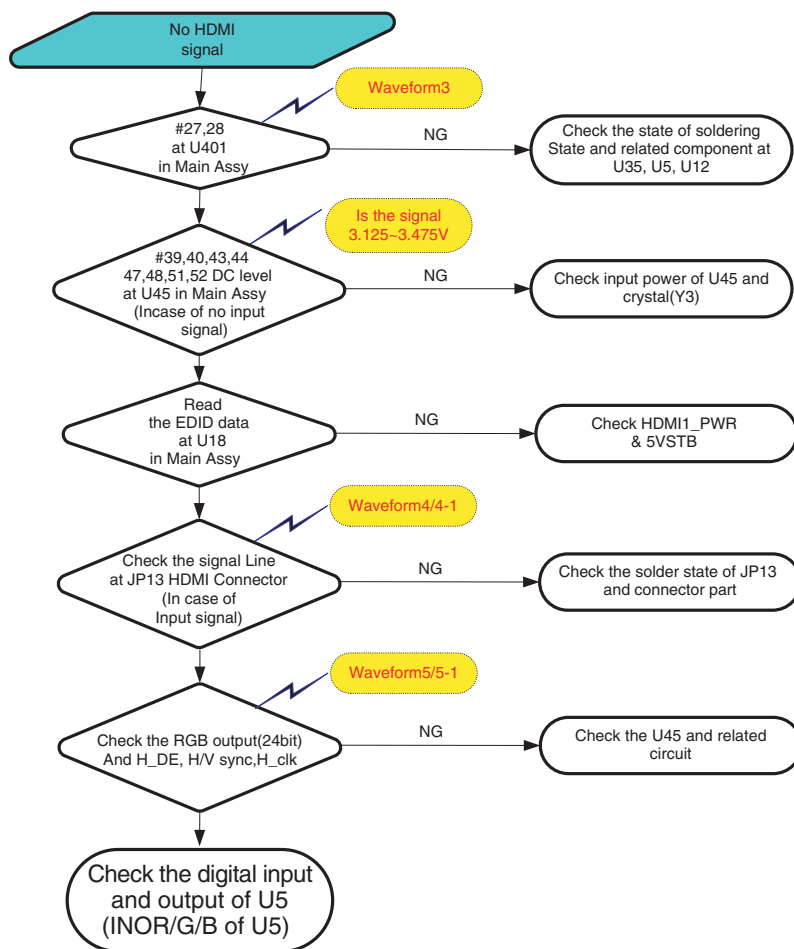
F

T01

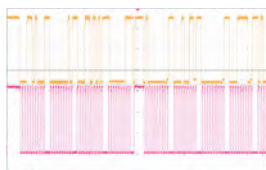
T01

5) No HDMI 1 Signal

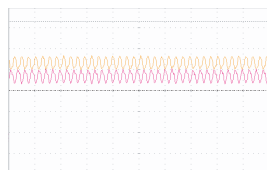
- ❖ Check the Connection of the HDMI input Connector
- ❖ Check the Soldering state in HDMI input part.
- ❖ Check for short circuits between each power terminal and the ground.



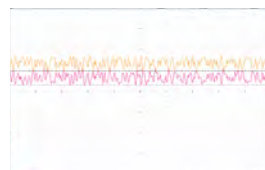
• Waveform



<Waveform 3>



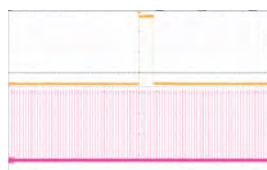
<Waveform 4>



<Waveform 4-1>



<Waveform 5>



<Waveform 5-1>

T02

T02

A

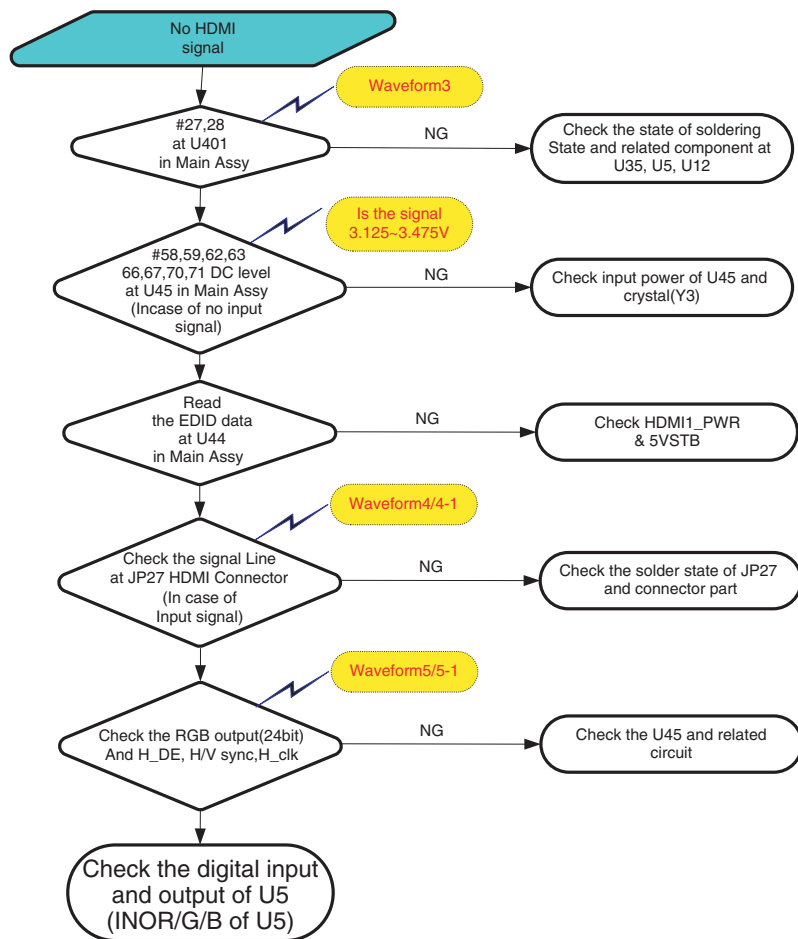
6) No HDMI 2 Signal

- ❖ Check the Connection of the HDMI input Connector
- ❖ Check the Soldering state in HDMI input part.
- ❖ Check for short circuits between each power terminal and the ground.

B

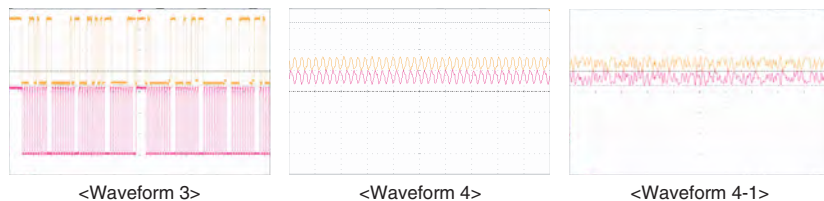
C

D

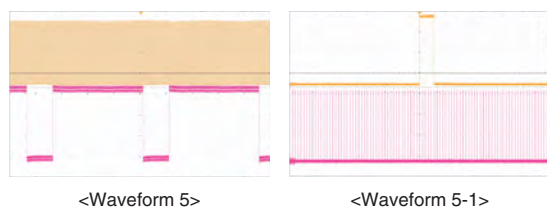


• Waveform

E



F

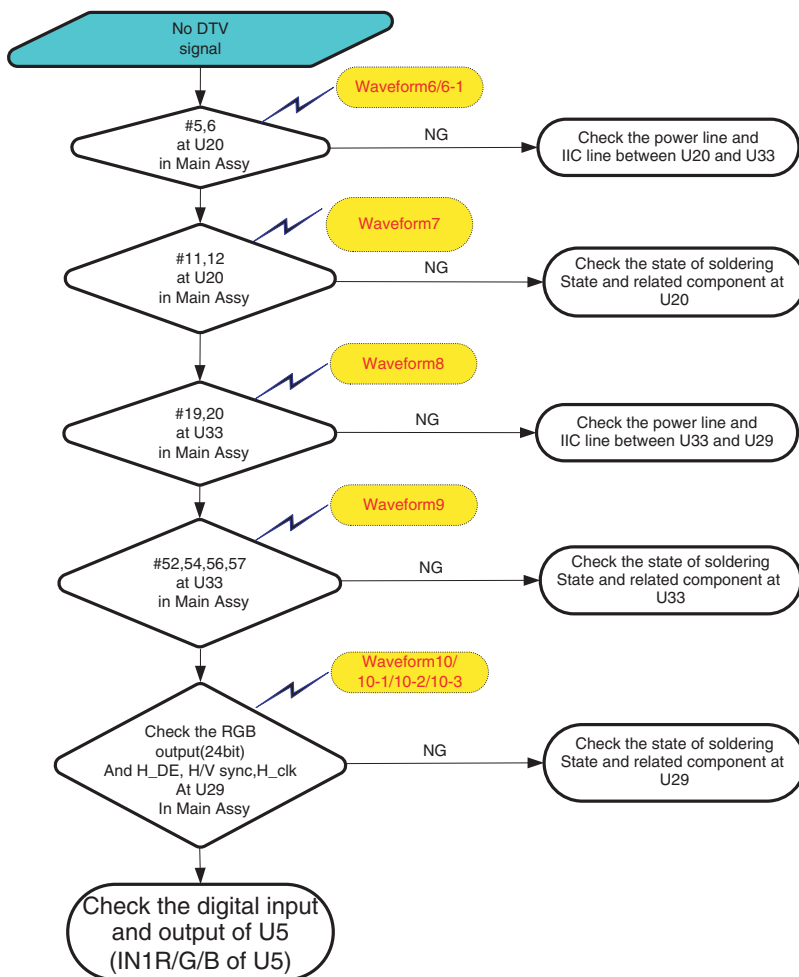


T03

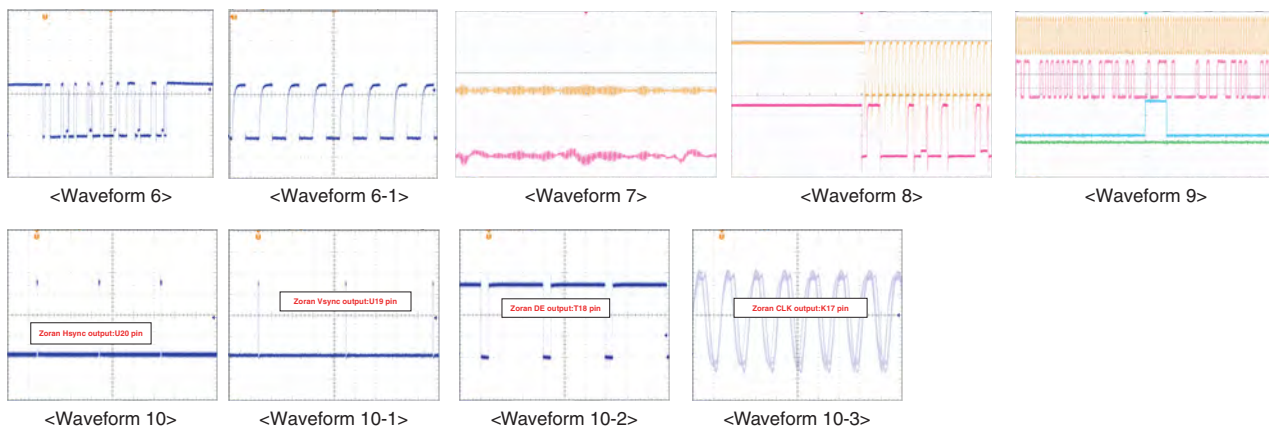
T03

7) No DTV Signal

- ❖ Check the Connection of the DTV input Connector
- ❖ Check for short circuits between each power terminal and the ground.



• Waveform



T04

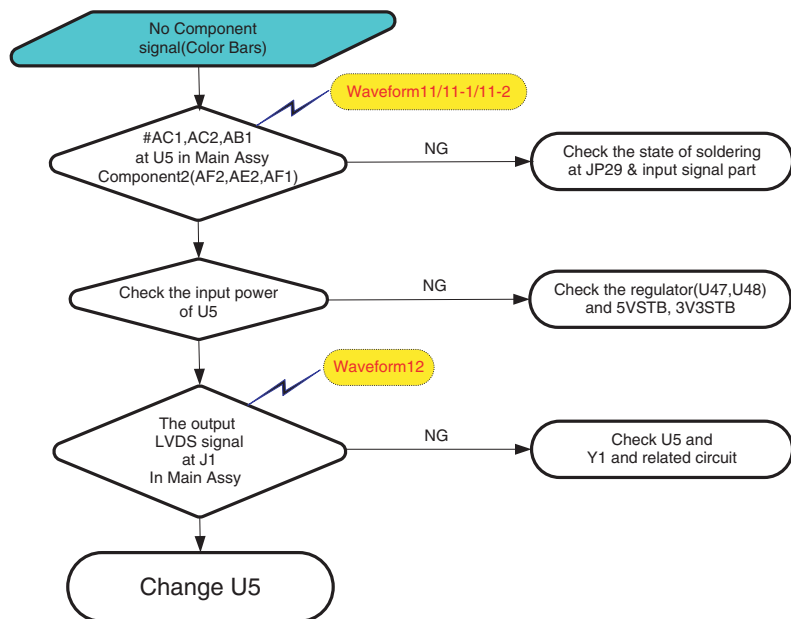
T04

A

8) No Component 1/2 Video Signal

- ❖ Check the connection of the input component video signal.
- ❖ Check the soldering state between JP29 and U5
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

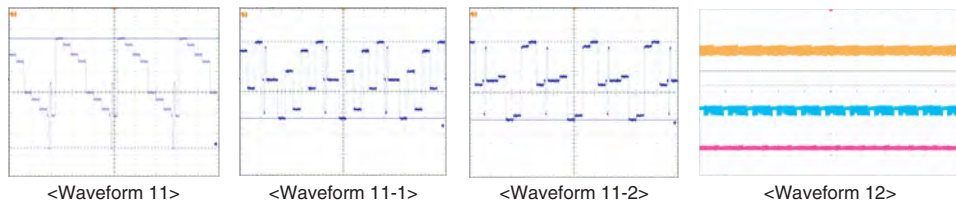


C

D

• Waveform

E



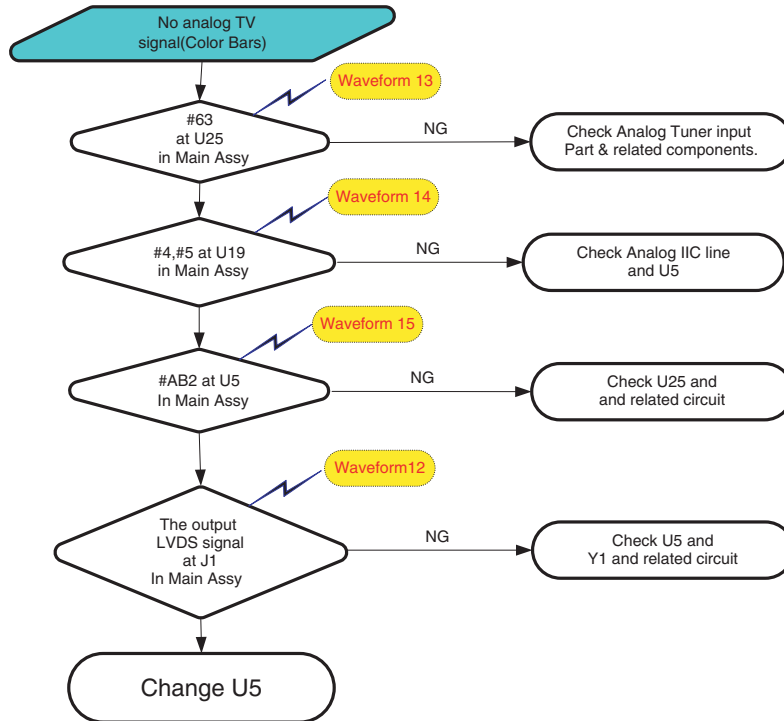
F

T05

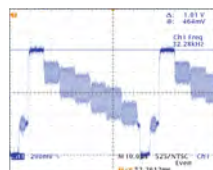
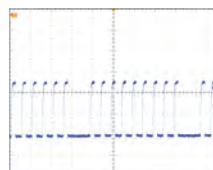
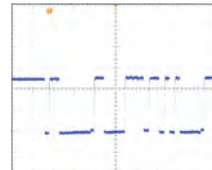
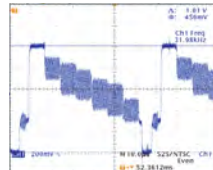
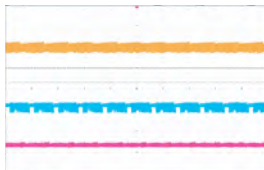
T05

9) No analog TV Signal

- ❖ Check the connection of the input TV signal.
- ❖ Check the soldering state in Tuner & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



• Waveform



T06

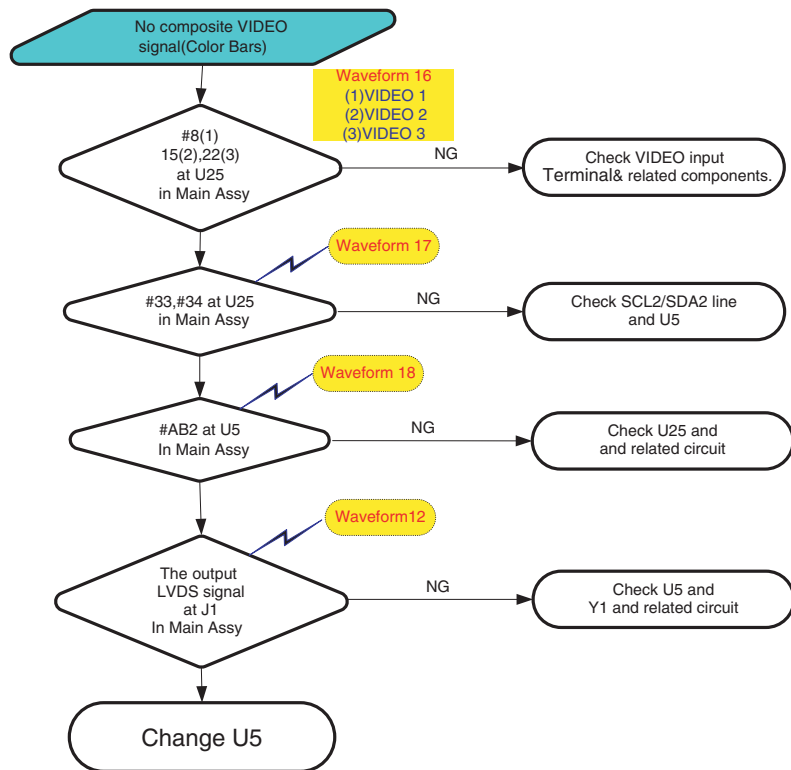
T06

A

10) No VIDEO 1/2/3 Signal

- ❖ Check the connection of the composite VIDEO signal.
- ❖ Check the soldering state in VIDEO Terminal & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

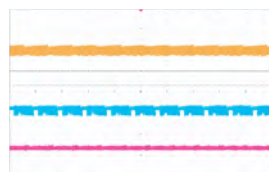


C

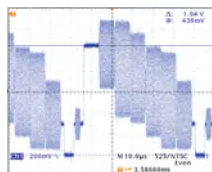
D

• Waveform

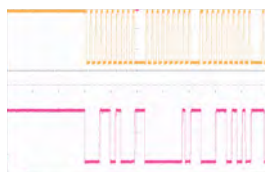
E



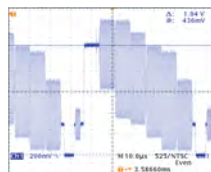
<Waveform 12>



<Waveform 16>



<Waveform 17>



<Waveform 18>

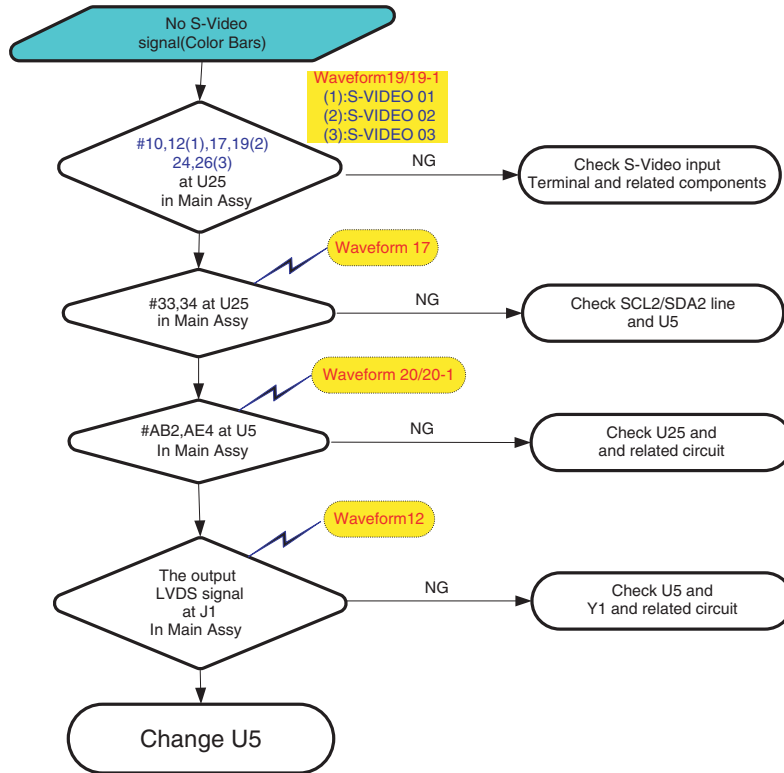
F

T07

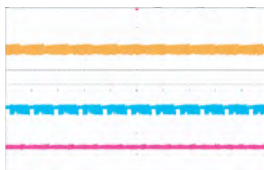
T07

11) No S-Video Signal

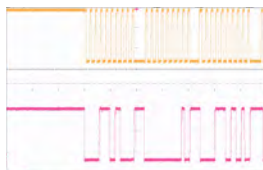
- ❖ Check the connection of the input S-Video signal.
- ❖ Check the soldering state in S-Video Terminal & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



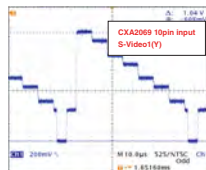
• Waveform



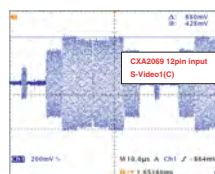
<Waveform 12>



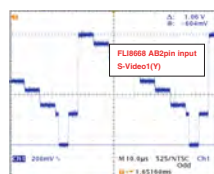
<Waveform 17>



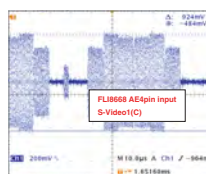
<Waveform 19>



<Waveform 19-1>



<Waveform 20>



<Waveform 20-1>

T08

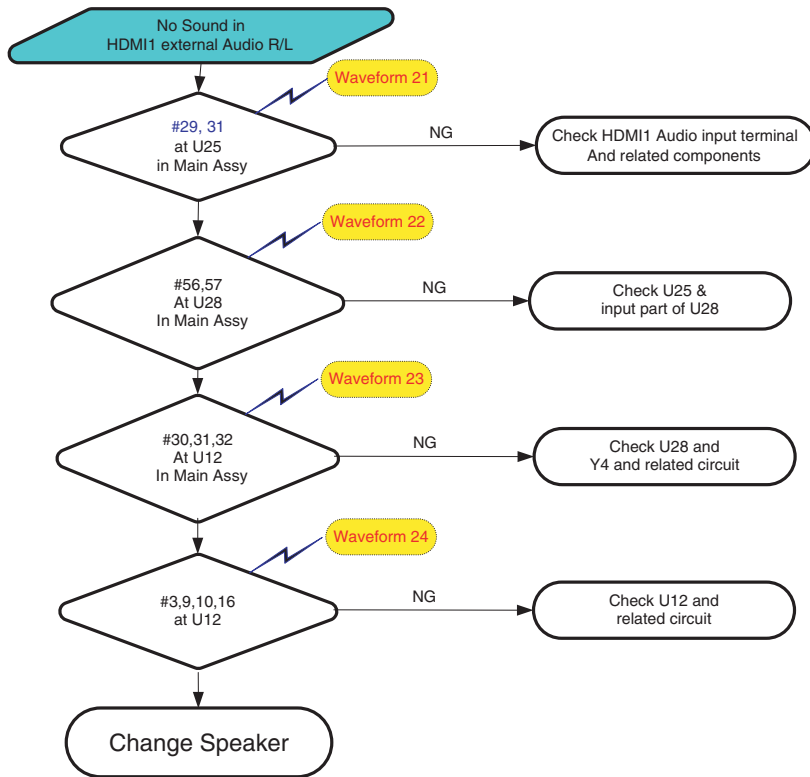
T08

A

12) No Sound in HDMI1 external audio input (Sine wave input 1KHz/3KHz)

- ❖ Check the connection of the input HDMI1 Audio R/L.
- ❖ Check the soldering state in HDMI1 Audio R/L & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

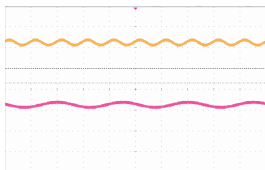
B



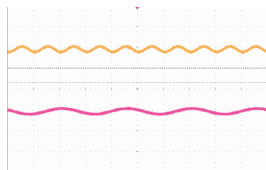
D

• Waveform

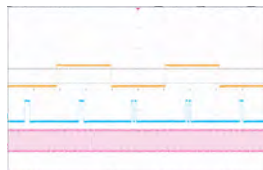
E



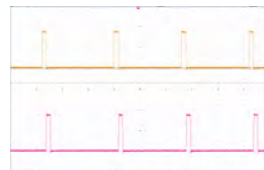
<Waveform 21>



<Waveform 22>



<Waveform 23>



<Waveform 24>

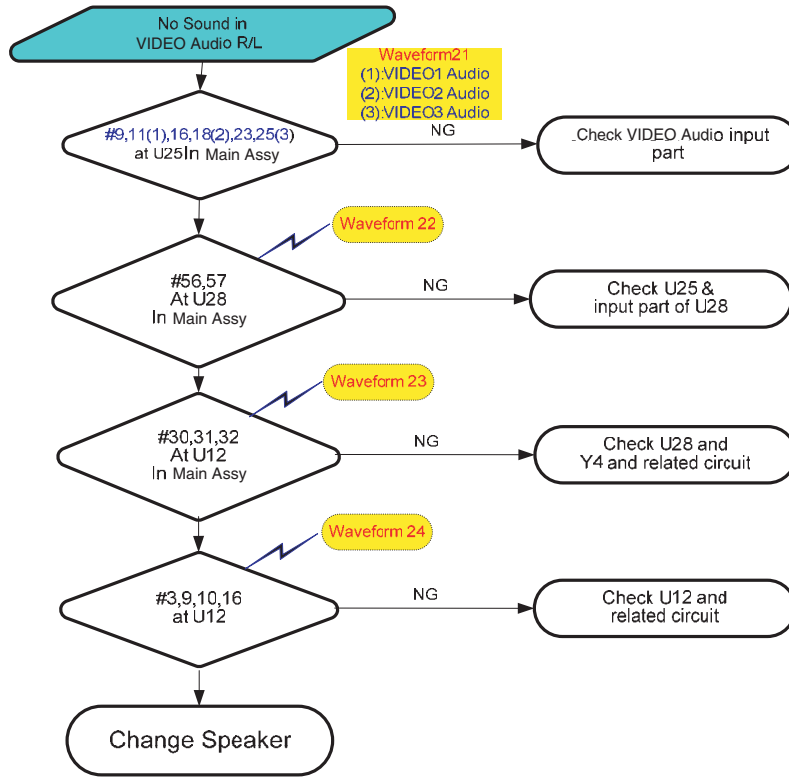
F

T09

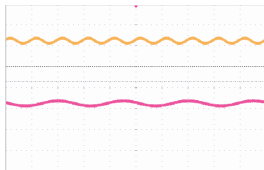
T09

13) No Sound in VIDEO input (Sine wave input)

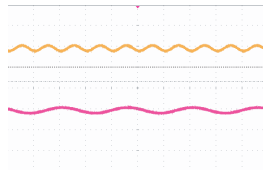
- ❖ Check the connection of the input VIDEO Audio R/L.
- ❖ Check the soldering state in VIDEO Audio R/L & input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



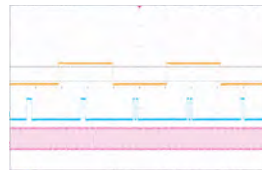
• Waveform



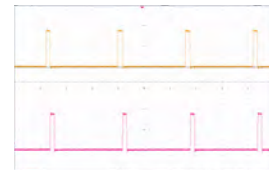
<Waveform 21>



<Waveform 22>



<Waveform 23>



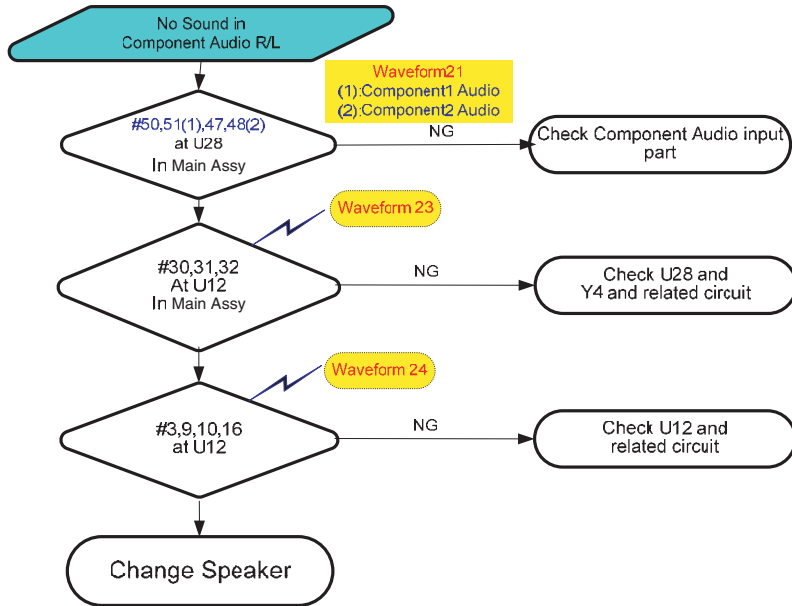
<Waveform 24>

A

14) No Audio in Component Input (Sine wave input)

- ❖ Check the connection of the input Component Audio R/L.
- ❖ Check the soldering state in Component Audio R/L & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

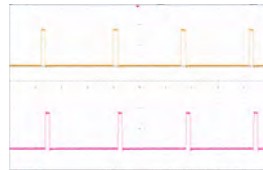
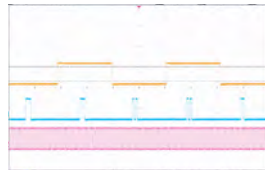
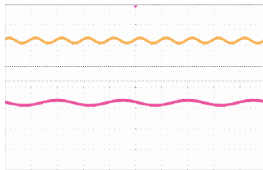


C

D

• Waveform

E



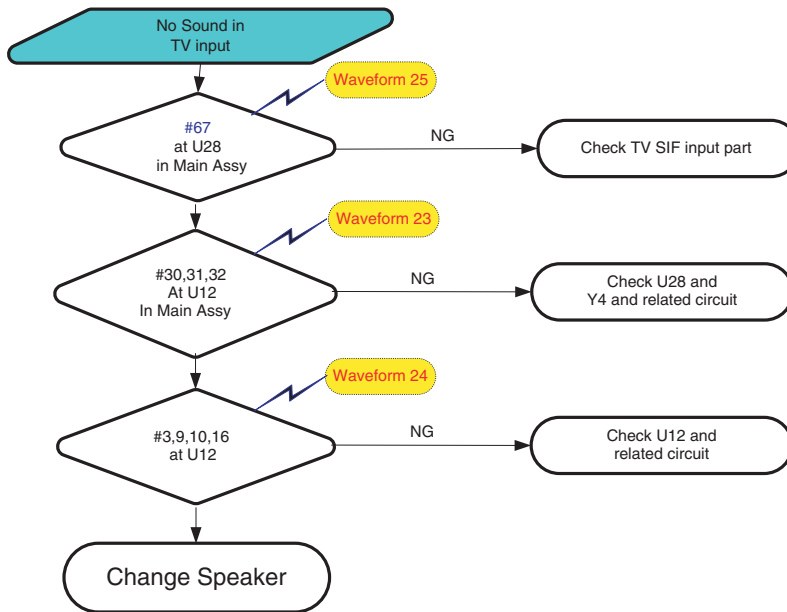
F

T11

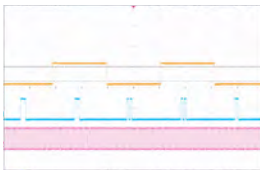
T11

15) No analog TV Sound (Sine wave input)

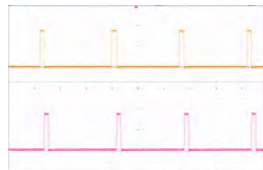
- ❖ Check the connection of the input TV SIF.
- ❖ Check the soldering state in TV SIF input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



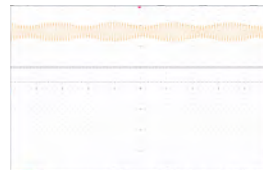
• Waveform



<Waveform 23>



<Waveform 24>



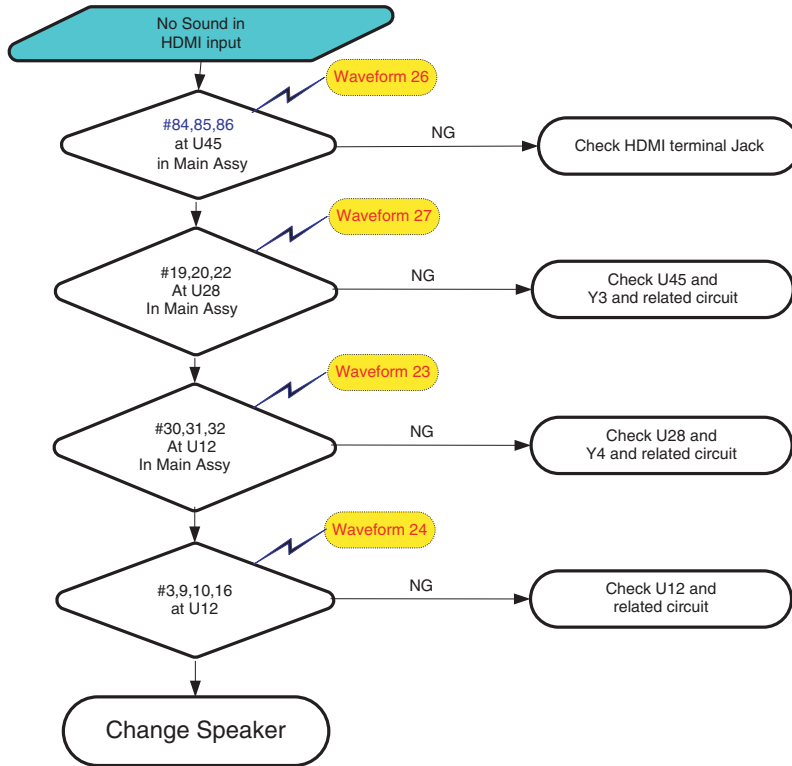
<Waveform 25>

A

16) No HDMI Sound in HDMI internal audio (Sine wave input)

- ❖ Check the connection of the HDMI Terminal .
- ❖ Check the soldering state in HDMI input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

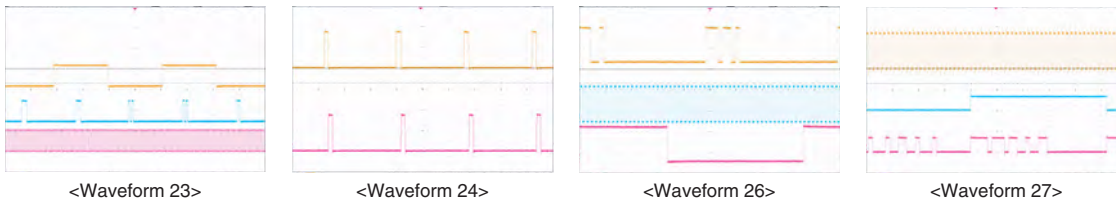
B



D

• Waveform

E



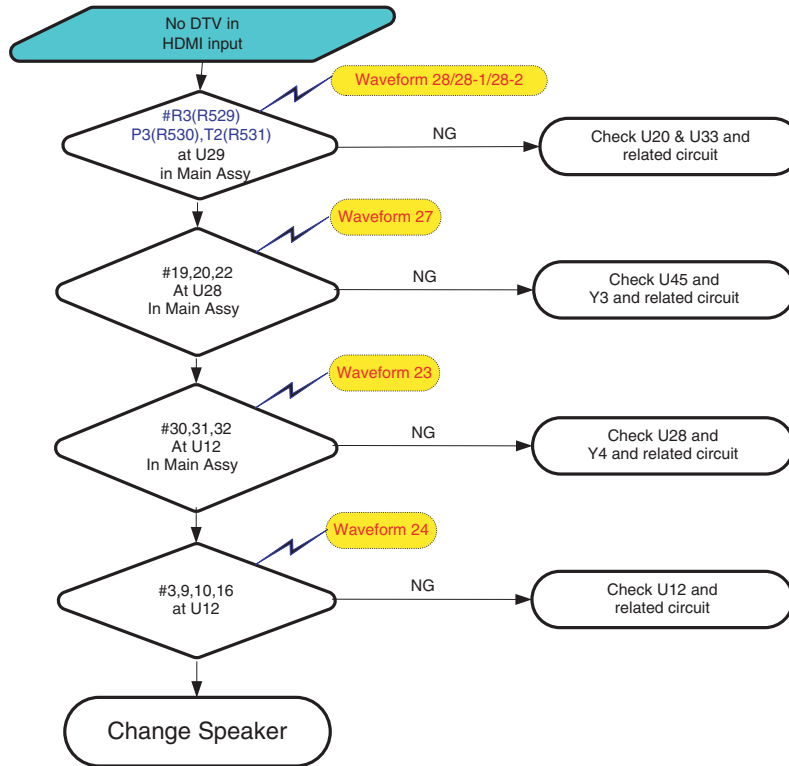
F

T13

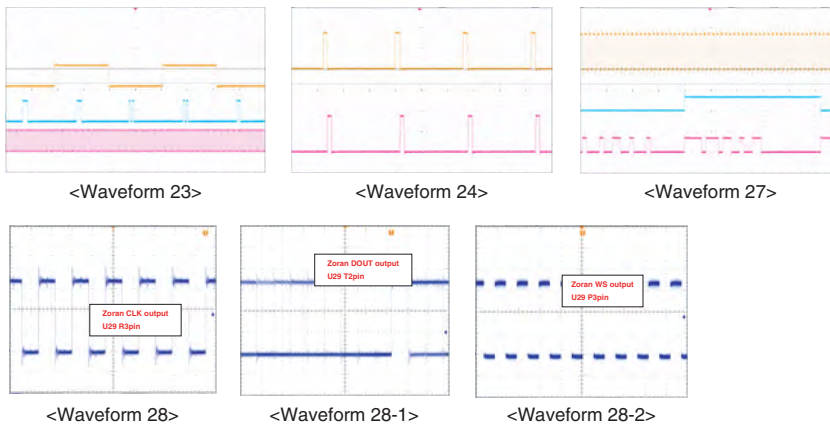
T13

17) No DTV Sound (Sine wave input)

- ❖ Check the connection of the DTV input Terminal.
- ❖ Check the soldering state in DTV input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



• Waveform

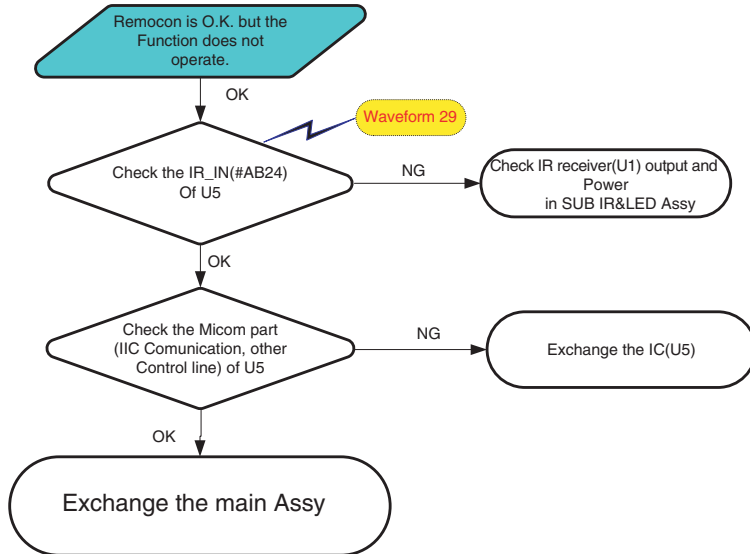

T14
T14

A

18) No Operating of a Remote Controller

- ❖ Check the Solder state and pin of Connector JP40
- ❖ Check the Solder state in SUB IR&LED Assy.
- ❖ Check the I2C between Micom and EEPROM.

B

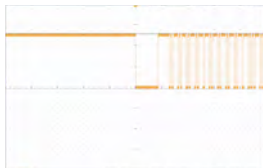


C

D

• Waveform

E



<Waveform 29>

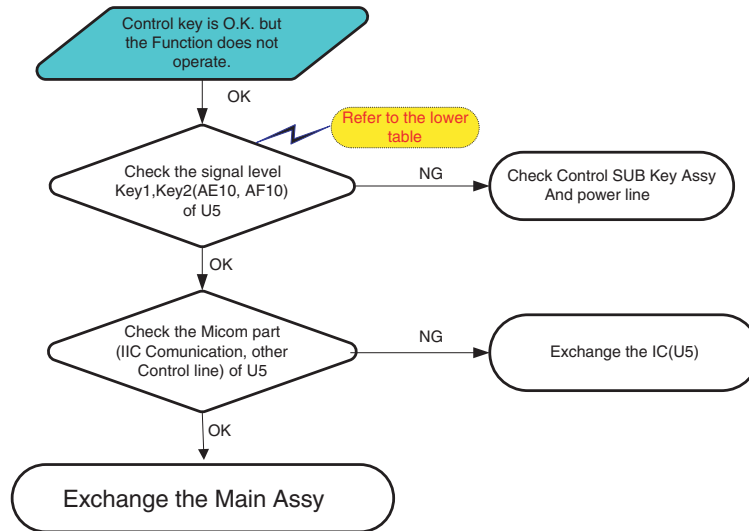
F

T15

T15

19) No Operating of a Key

- ❖ Check the Solder state and pin of Connector JP41
- ❖ Check the Solder state in SUB Key Assy.
- ❖ Check the I2C between Micom and EEPROM.
- ❖ Check the Flash Memory or SDRAM.



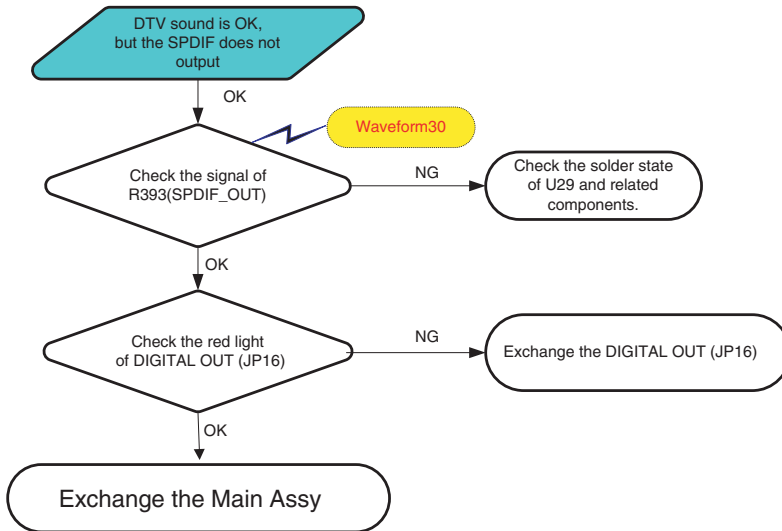
POWER(0.265~0.445V)
 MEMU(0.850~1.030V)
 AV(1.34~1.54V)
 SELECT(1.98~2.17V)
 CH+(0.280~0.460V)
 CH-(0.850~1.020V)
 VOL+(1.35~1.53V)
 VOL-(1.97~2.16V)

A

20) No DIGITAL audio out

- ❖ Check the Solder state and pin of DIGITAL OUT (JP16).
- ❖ Check the DTV sound and video state.

B



C

D

• Waveform



<Waveform 30>

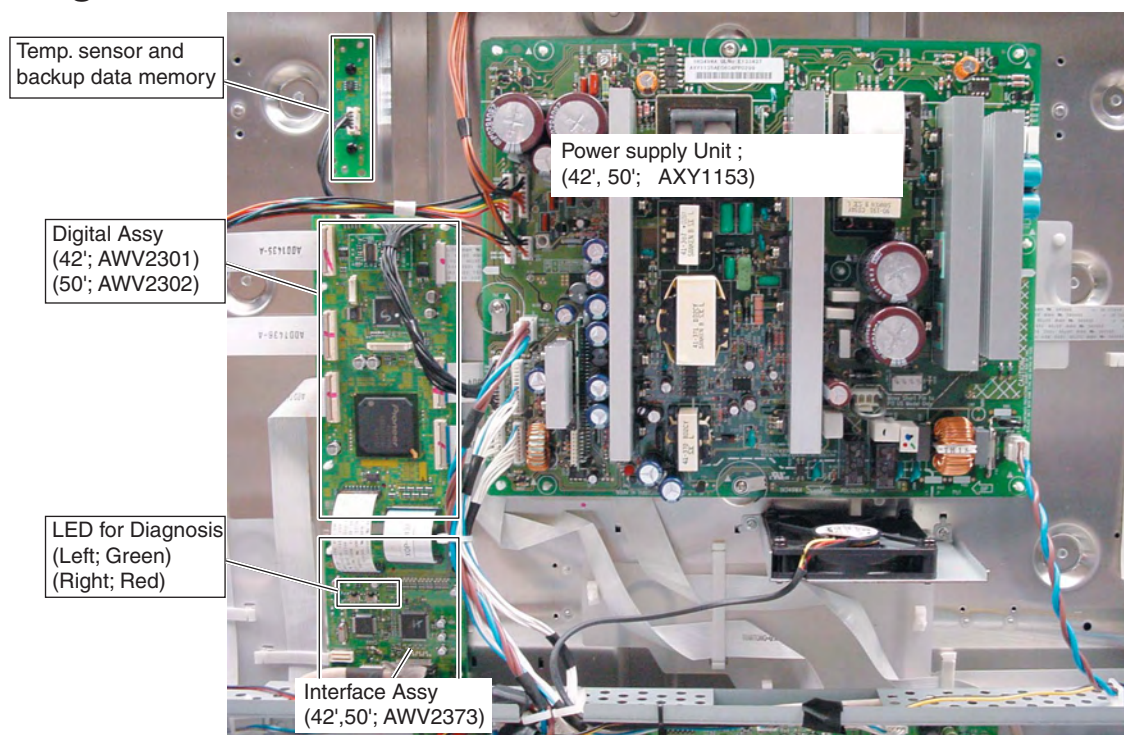
F

T17

T17

5.2 DIAGNOSIS OF PD (POWER-DOWN) and SD (SHUTDOWN)

• Diagnosis of the PDP Module



P/D and S/D diagnoses with a blinking of a red or a green LED in the interface Assy.

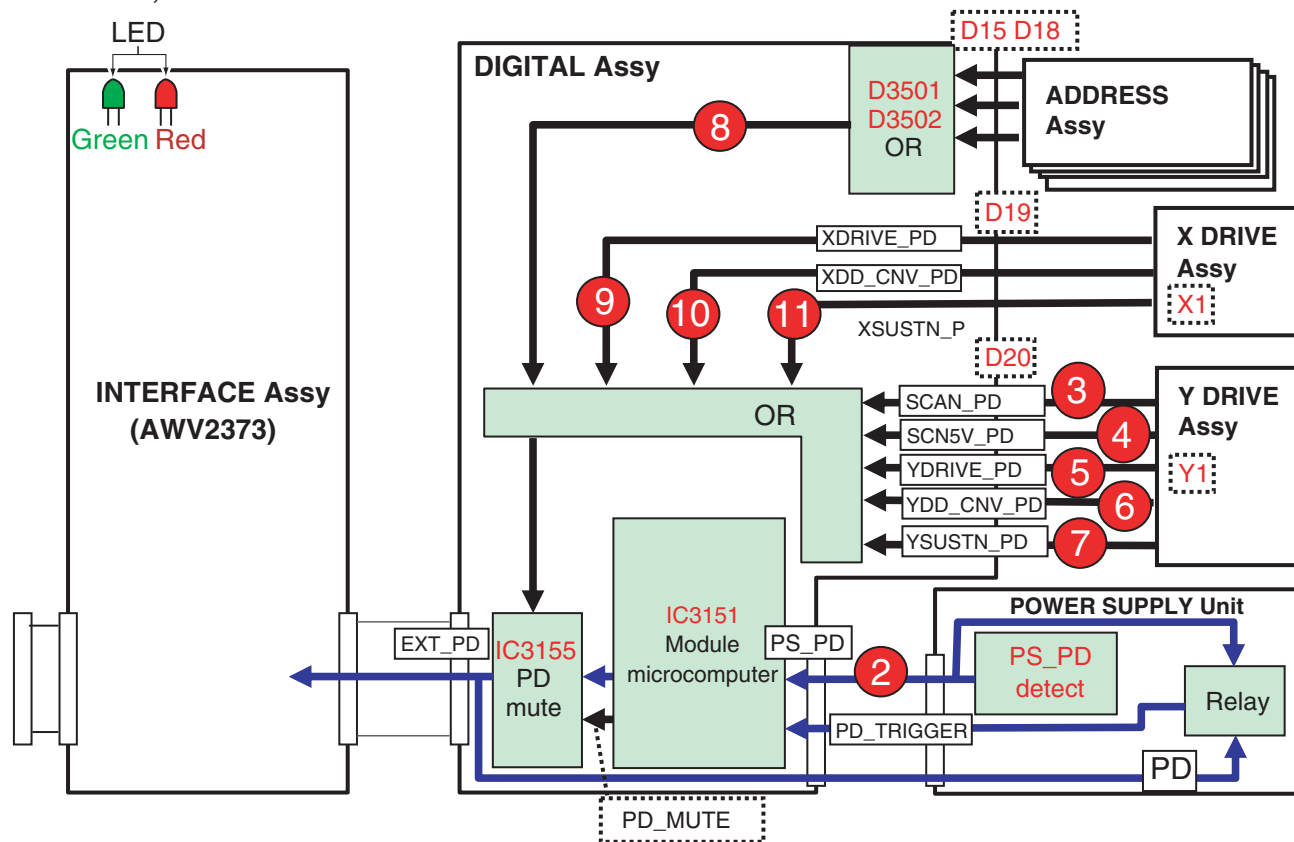
5.2.1 BLOCK DIAGRAM OF THE POWER DOWN SIGNAL

- Check LED flashes on INTERFACE Assy

Normal operation

Standby ; Red

Power ON; Green



Note: The figure number shows the LED blinking times if Power down.

5.2.2 DIAGNOSIS OF THE PD (POWER-DOWN)

Prediction of failure symptoms when a PD (power-down) generated

LED Flashing Count (Interface Assy)	PD Circuit	Checkpoint	Main Cause
Red 2	Power supply PD	POWER SUPPLY Unit	Failure in the POWER SUPPLY Unit
Red 3	SCAN PD	42 SCAN A, B Assy 50 SCAN A, B Assy	SCAN IC is damaged (short-circuiting between VH and GNDH)
		42 Y DRIVE Assy 50 Y DRIVE Assy	Connectors disconnected between the POWER SUPPLY Unit and the Y DRIVE Assy Connectors disconnected between the DIGITAL and the Y DRIVE Assys Failure in the VH power
Red 4	IC5V PD	42 SCAN A, B Assy 50 SCAN A, B Assy	SCAN IC is damaged (short-circuiting between IC5V and GNDH)
			Disconnection of the scan-bridge (15-pin) connector
		42 Y DRIVE Assy 50 Y DRIVE Assy	Failure in the photo coupler Abnormality in the IC5V DC/DC converter
Red 5	Y-DRIVE PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the 16.5 V power
Red 6	Y DCDC PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the VOFS DC/DC converter Abnormality in the VPRST DC/DC converter Abnormality in VC_15V DC/DC converter
Red 7	Y SUS PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the DK module Abnormality in the control signal line
Red 8	Address PD	42 ADDRESS Assy 50 ADDRESS Assy	Short-circuiting of Vadr TCP damaged
Red 9	X-DRIVE PD	42 X DRIVE Assy 50 X DRIVE Assy	Connectors disconnected between the DIGITAL and the X DRIVE Assys Abnormality in the 16.5 V power
Red 10	X DCDC PD	42 X DRIVE Assy 50 X DRIVE Assy	Abnormality in VC_15V power Abnormality in VXNRST power
Red 11	X SUS PD	42 X DRIVE Assy 50 X DRIVE Assy	Abnormality in the DK module Abnormality in the control signal line Connectors disconnected between the POWER SUPPLY Unit and the X DRIVE Assy

How to distinguish which connector is disconnected

Assy	Connector	To which Assy the Connector is Connected	Frequency of LED Flashing (Inter Face Assy)	Screen Display
42 X DRIVE Assy 50 X DRIVE Assy	CN1001	42 DIGITAL Assy, 50 DIGITAL Assy	Red 11 (XDRIVE)	—
	CN1204	POWER SUPPLY Unit (ADR system power)	—	White (left half of the screen)
	CN1206	POWER SUPPLY Unit (drive system power)	Red 12 (X-SUS)	—
	CN1201, CN1202, CN1203, CN1205	42 ADDRESS Assy 50 ADDRESS Assy	Red 8 (ADR)	—
42 Y DRIVE Assy 50 Y DRIVE Assy	CN2001	42 DIGITAL Assy, 50 DIGITAL Assy	Red 3 (SCAN)	—
	CN2351	POWER SUPPLY Unit (drive system power)	Red 3 (SCAN)	—
	CN2353	POWER SUPPLY Unit (ADR system power)	—	White (right half of the screen)
	CN2354, CN2355, CN2356, CN2357	42 ADDRESS Assy 50 ADDRESS Assy	Red 8 (ADR)	—
	CN2401, CN2402	42 SCAN A, B Assy, 50 SCAN A, B Assy	Red 4 (SCN-5V)	—
SCAN A, B Assy	CN2701, CN2801	42 Y DRIVE Assy, 50 Y DRIVE Assy	Red 4 (SCN-5V)	—
42 ADDRESS Assy 50 ADDRESS Assy	CN1502, CN1702	42 DIGITAL Assy, 50 DIGITAL Assy	Red 8 (ADRS)	—
	CN1501, CN1701	42 X DRIVE Assy, 50 X DRIVE Assy 42 Y DRIVE Assy, 50 Y DRIVE Assy	Red 8 (ADRS)	—

■ How to identify the cause of a power-down that is indicated by 2-times flashing of the red LED

The cause of a power-down that is indicated by 2-times flashing of the red LED can be identified by performing the steps ① to ③ below:

- ① Visual check with the power off
- ② Tester check with the power off
- ③ Check with the power on

① Status check with the power off

Check if the cables and FFC cables that are connected to the Y DRIVE Assy are firmly connected.

② Tester check with the power off

1. Check between Vsus and SUSGND with a tester

Disconnect all cables from the X and Y DRIVE Assys and check if there is short-circuiting between Vsus and SUSGND in the X and Y DRIVE Assys.

- How to check if there is short-circuiting on the X DRIVE Assy:
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the X Mask Module is damaged.
If they are not short-circuited, check other elements to see if they are short-circuited.
- How to check if there is short-circuiting on the Y DRIVE Assy:
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the Y Mask Module is damaged.
If they are not short-circuited, check other elements to see if they are short-circuited.
- Check for short-circuiting in the Power supply.

Note that at the beginning of measuring with a tester, charging of an electrolytic capacitor may cause a phenomenon like short-circuiting. However, the resistance will soon rise if there is no short-circuiting.

2. Check for short-circuiting between VH and PSUS with a tester

Disconnect the cables that connect the bridge connectors between the Y DRIVE Assy and upper and lower SCAN Assys.

- If there is short-circuiting in the upper SCAN Assy, one of Scan ICs in the upper SCAN Assy is damaged.
- If there is short-circuiting in the lower SCAN Assy, one of Scan ICs in the lower SCAN Assy is damaged.
- If there is short-circuiting in the Y DRIVE Assy, a circuit in the Y DRIVE Assy is short-circuited.

If no short-circuiting is detected up to this stage, the power-down in question is proved not to be caused by short-circuiting. Therefore, it is assumed that the power-down occurred because power had not been supplied to Vsus or VH for some reason.

③ Check immediately after the unit is turned on before a power-down occurs.

If the Vsus voltage does not increase, the POWER SUPPLY Unit is in failure.

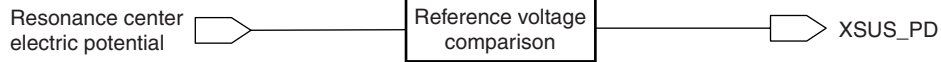
If the VH voltage does not increase, the VH DC/DC converter in the Y DRIVE Assy is in failure.

④ Check the PD detection circuit.

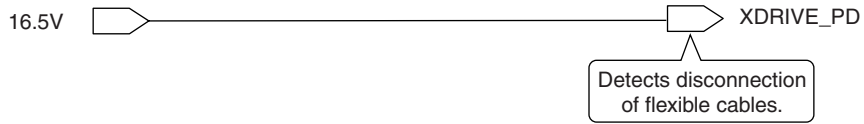
If no problem is detected in steps ① to ③, a power-down occurred even though the voltage was normal. Therefore, the PD detection circuit may be in failure.

By following the above procedures, the real cause of a power-down can be judged.

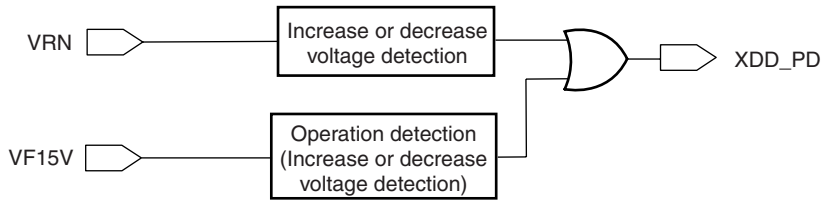
A

X Drive PD system

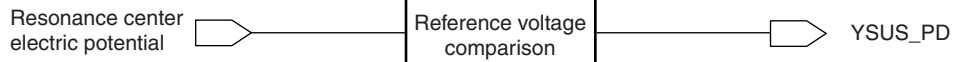
B



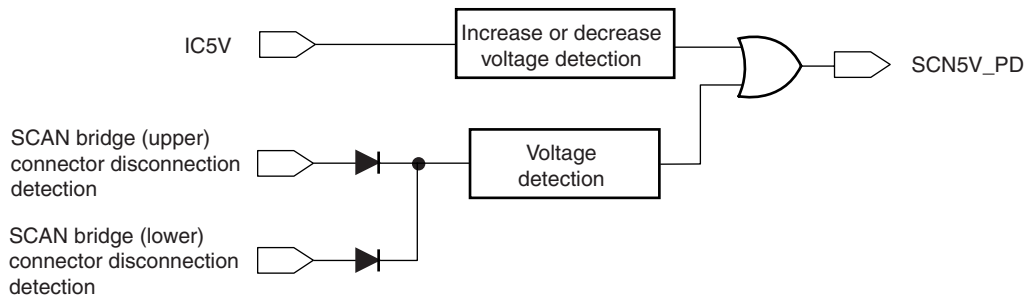
C



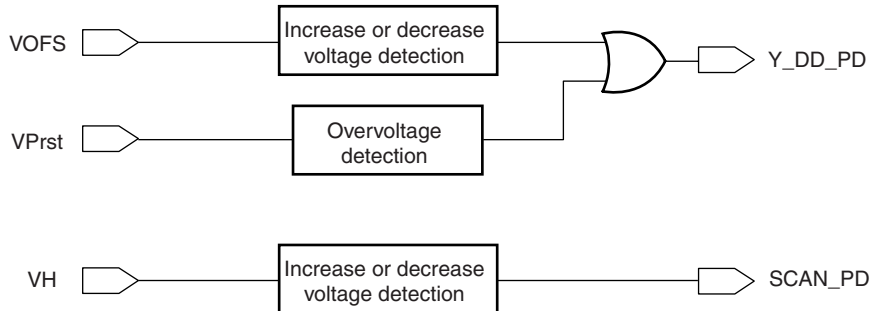
C

Y Drive PD system

D



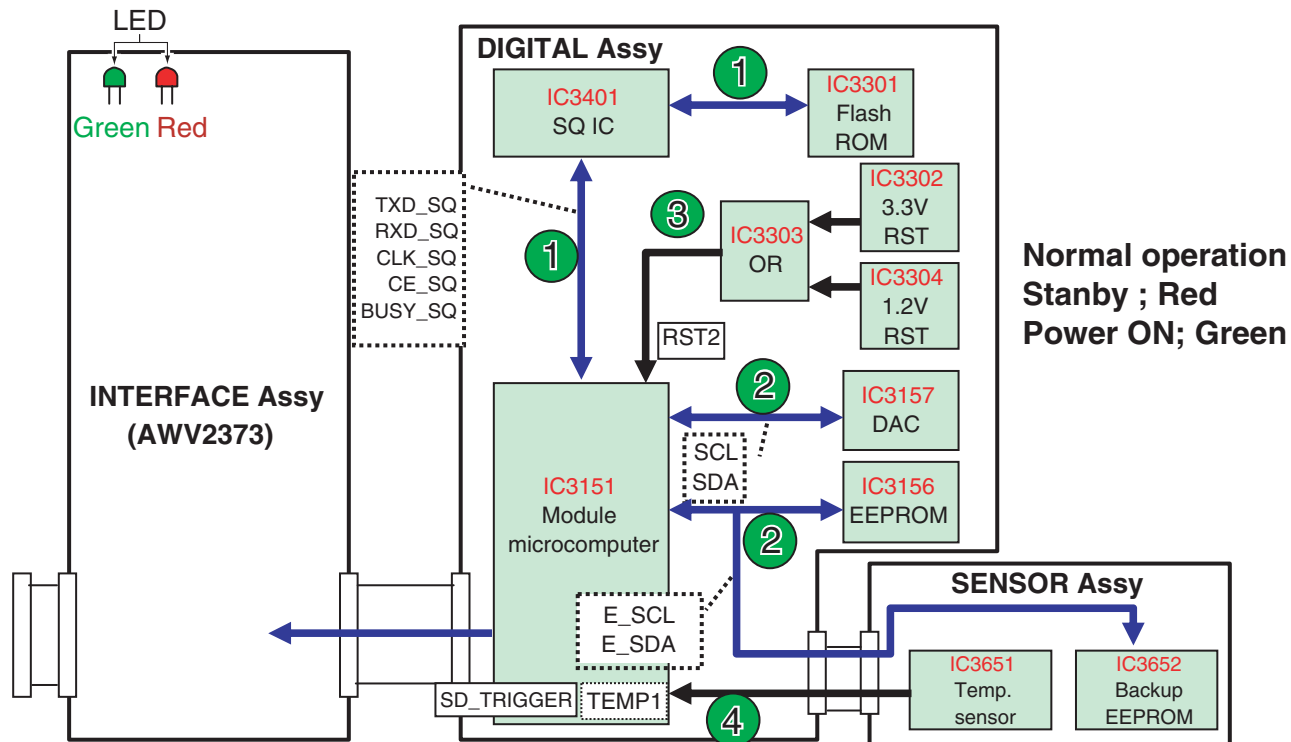
E



F

5.2.3 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

- Check LED flashes on INTERFACE Assy



Note: The figure number shows the LED blinking times if Shutdown.

5.2.4 DIAGNOSIS OF THE SD (SHUTDOWN)

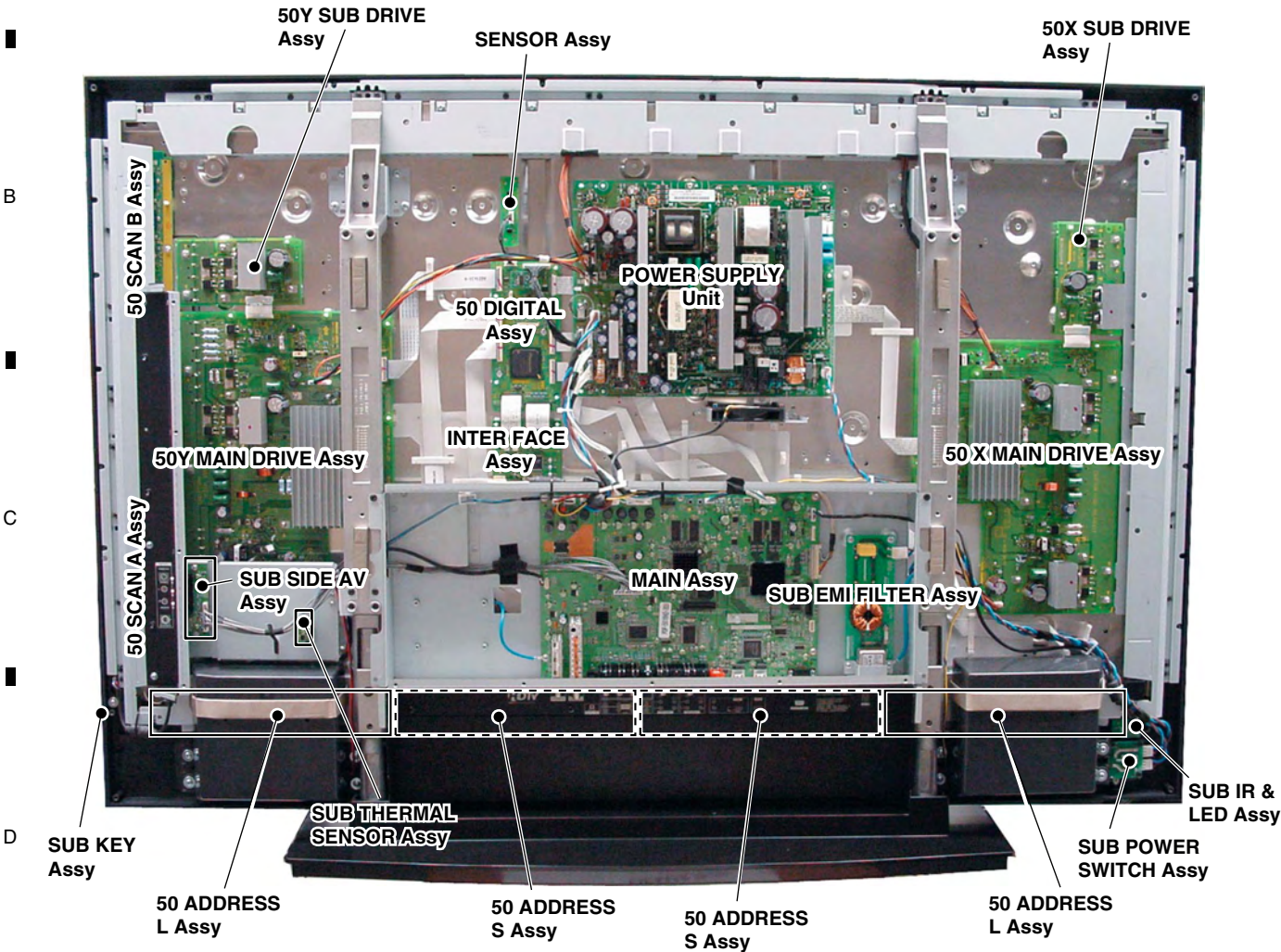
■ Prediction of failure symptoms when a SD (Shutdown) generated

LED Flashing Count (Interface Assy)	SD Circuit	Subcategory			Point to be Checked (Possible defective part)
Green 1	Sequence processor NG	Communication failure	SQ-IC	RTRY	CLK_SQ/TXD_SQ/RXD_SQ (IC3151/IC3401)
		Sequence stop		SQNO	(CN3001/IC3401)
		Busy		BUSY	BUSY_SQ , (IC3401)
		Version error		VER-HS	SQ-IC version, (IC3301/IC3401)
Green 2	IIC communication failure of the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication of IC3156 (IC3151/IC3156)
		PANEL SENSOR EEPROM		BACKUP	IC communication of IC3652 (IC3151/IC3652)
		DAC		DAC	IIC communication of IC3157 (IC3151/IC3157)
Green 3	Power decrease of DIGITAL DCDC		RST2	-	DCDC converter output voltage (AXY1137-)
					V+12V voltage (Power supply Assy)
Green 4	Panel having higher temperature (TEMP1)		TMP_NG	TEMP1	Surrounding temperature Abnormality of temperature sensor (AWW1140: (IC3901))

6. DISASSEMBLY

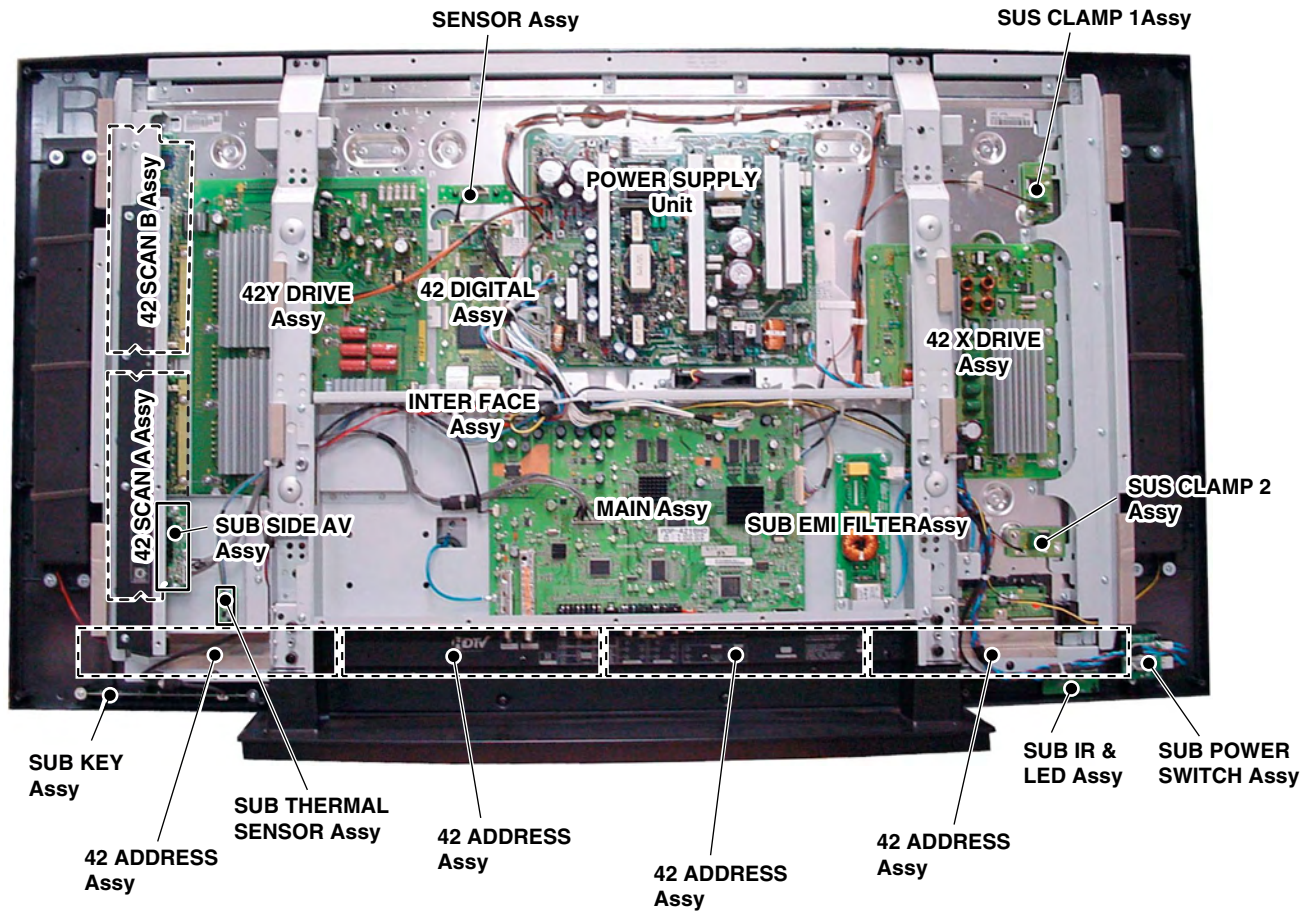
6.1 PCB LOCATION

• PDP-5016HD



• Rear view

• PDP-4216HD



• Rear view

1234

6.2 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

6.2.1 DISASSEMBLY (PDP-5016HD)

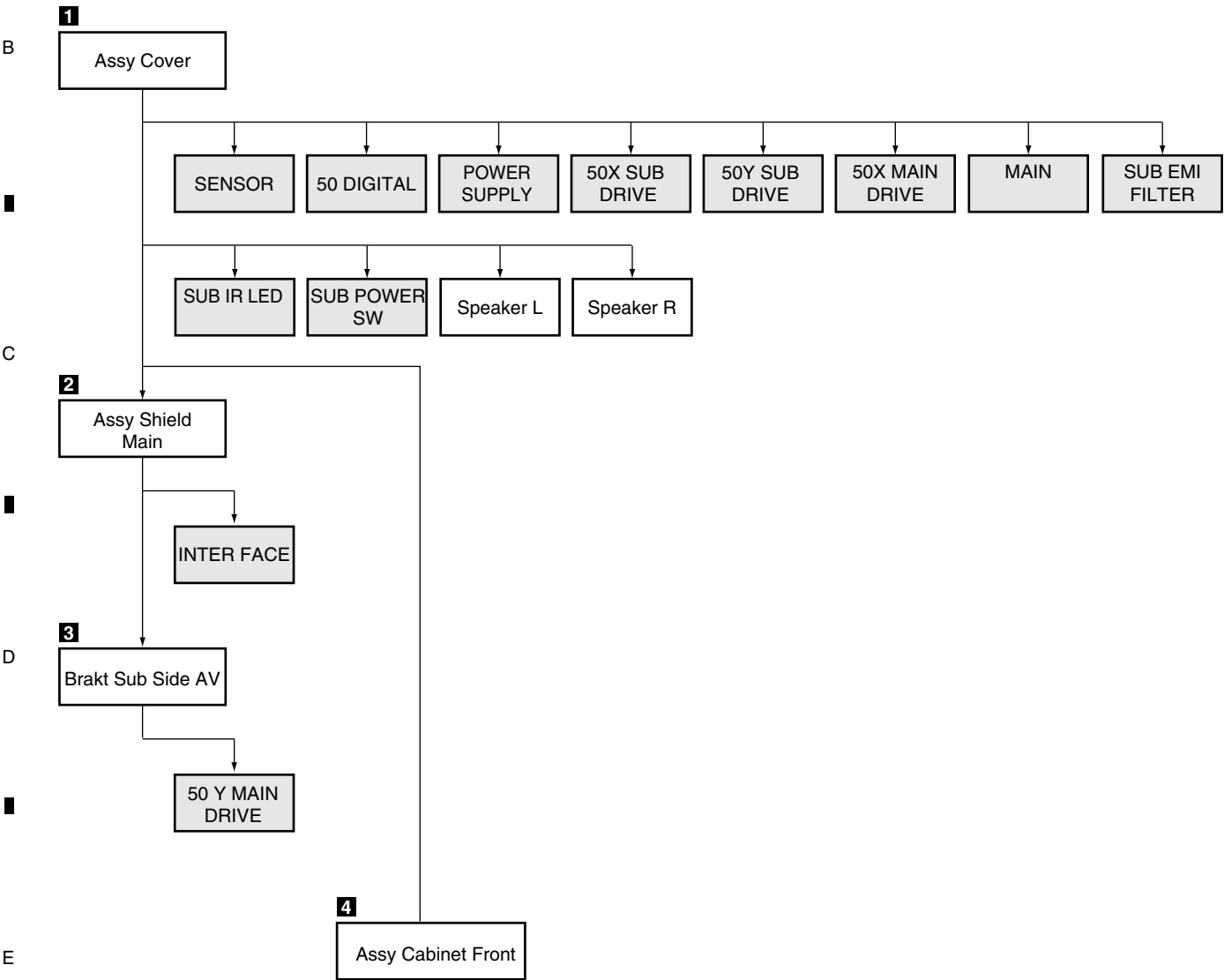
A

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:

• PDP-5016HD

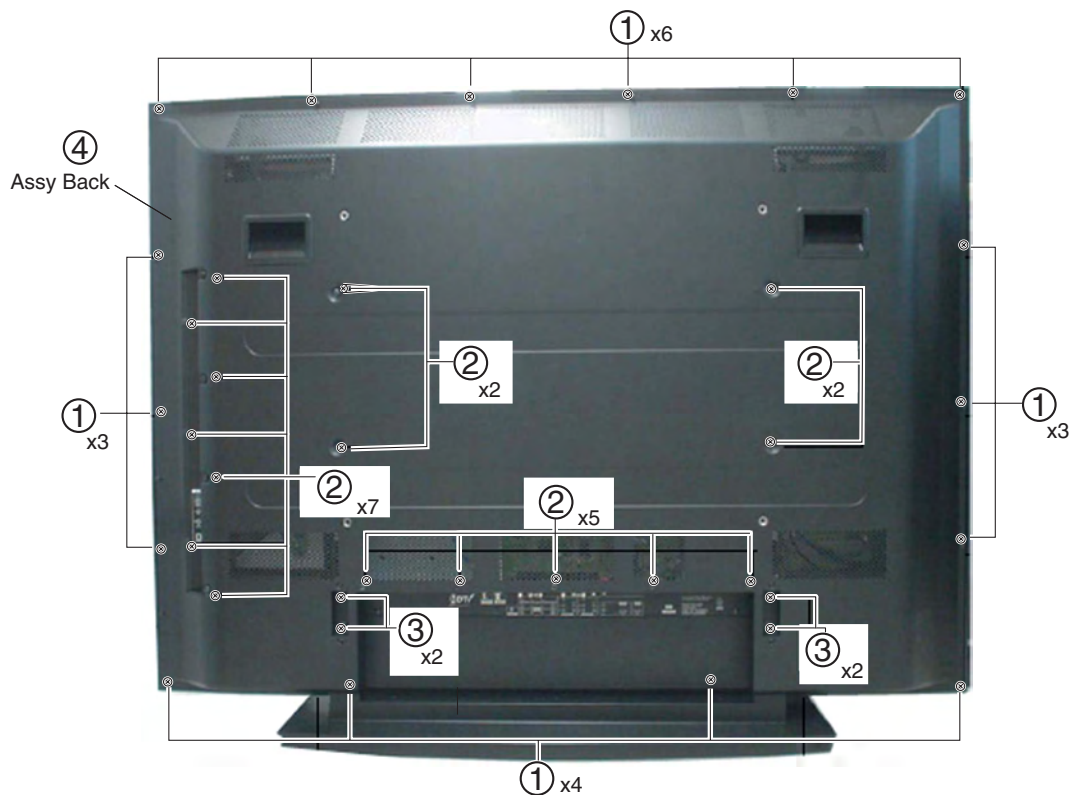


Disassembly

• PDP-5016HD

1 Back Cover (Assy Back)

- ① Remove the 16 screws.
- ② Remove the 15 screws
- ③ Remove the 5 screws
- ④ Remove the Assy Back

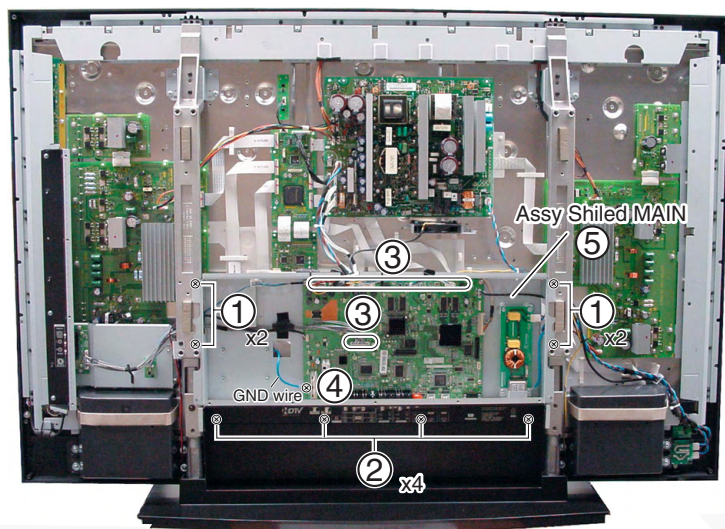


A Disassembly

• PDP-5016HD

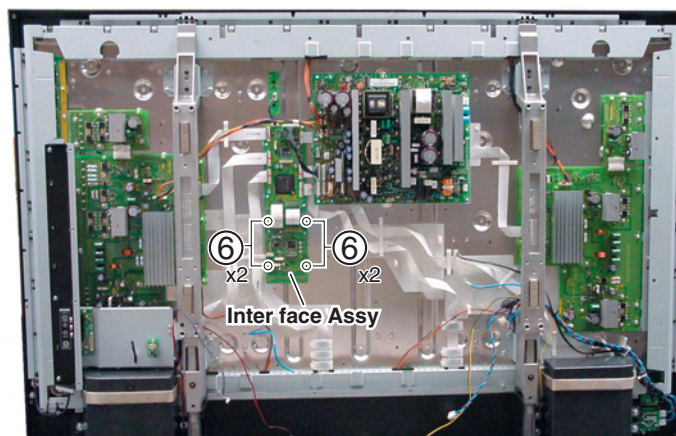
2 Assy Shiled MAIN

- ① Remove the 4 screws.
- ② Remove the 4 screws.
- ③ Disconnect the some connectors
- ④ Remove the the 1 screw. (GND wire)
- ⑤ Remove the Assy Shield MAIN.



• Inter Face Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2 Assy Shield MAIN").
- ⑥ Unhook the 4 spacer



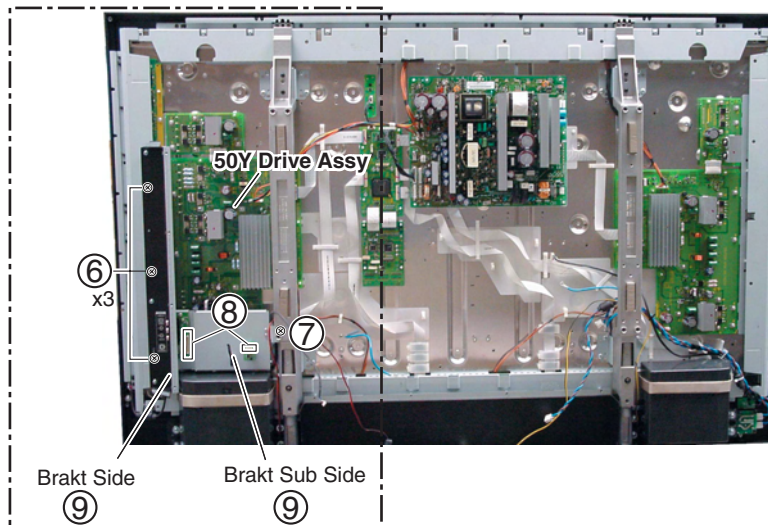
Disassembly

• PDP-5016HD

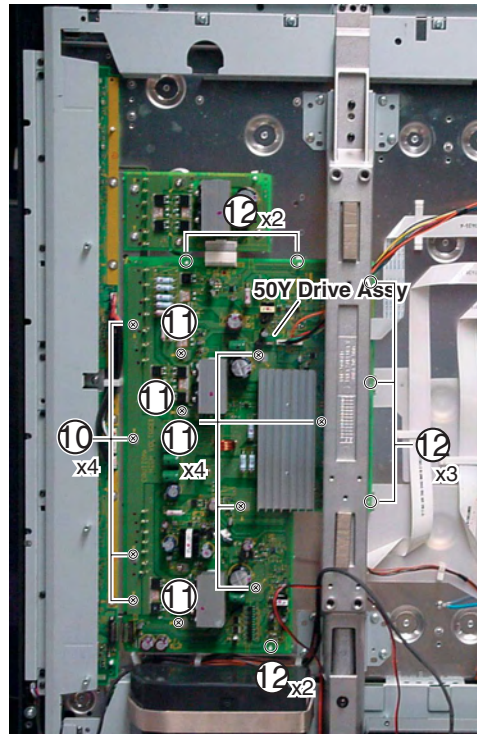
3 Brakt Sub Side AV

• 50Y Drive Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2 Assy Shield MAIN").
- ⑥ Remove the 3 screws.
- ⑦ Remove the 1 screw.
- ⑧ Disconnect the 2 connectors.
- ⑨ Remove the Brakt Side and Brakt Sub Side.



- ⑩ Remove the 4 screws.
- ⑪ Remove the 7 screw.
- ⑫ Unhook the 6 hooks.

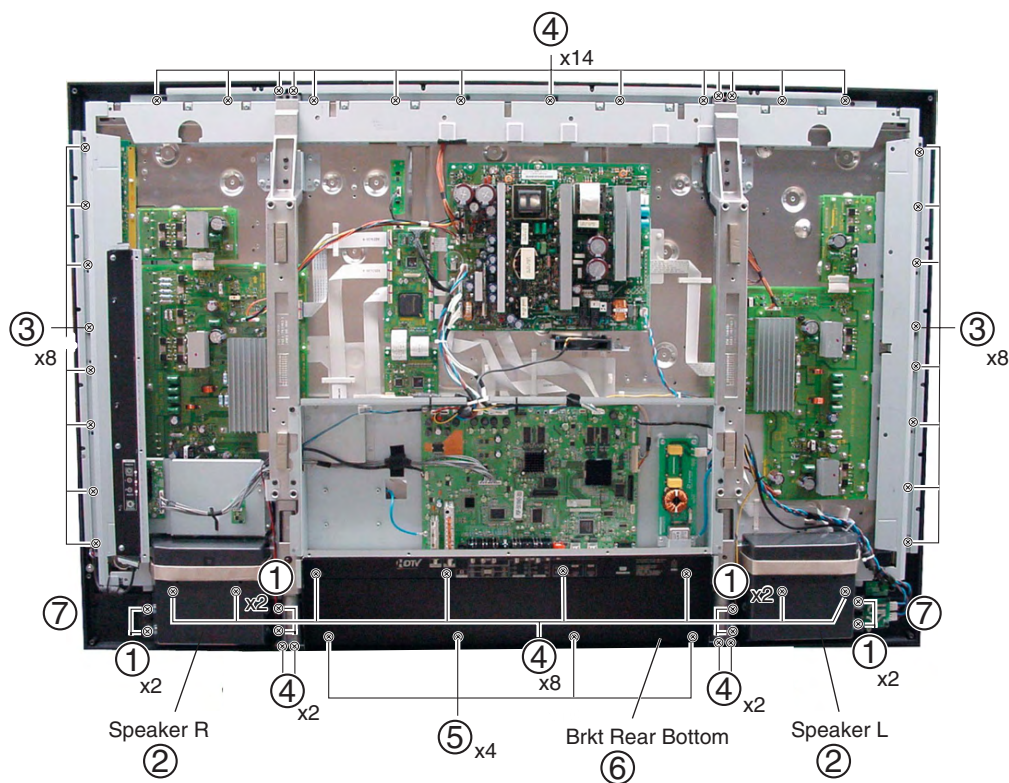


A Disassembly

• PDP-5016HD

4 Assy Cabinet Front

- ① Remove the 8 screws. (Speake L and Speaker R)
- ② Remove the Speake L and Speaker R.
- ③ Remove the 16 screws.
- ④ Remove the 26 screws.
- ⑤ Remove the 4 screws.
- ⑥ Remove the Brkt Rear Bottom.
- ⑦ Disconnect the some connectors. (SUB IR, SUB Power and SUB Key Assys)
- ⑧ Remove the Assy Cabinet Front

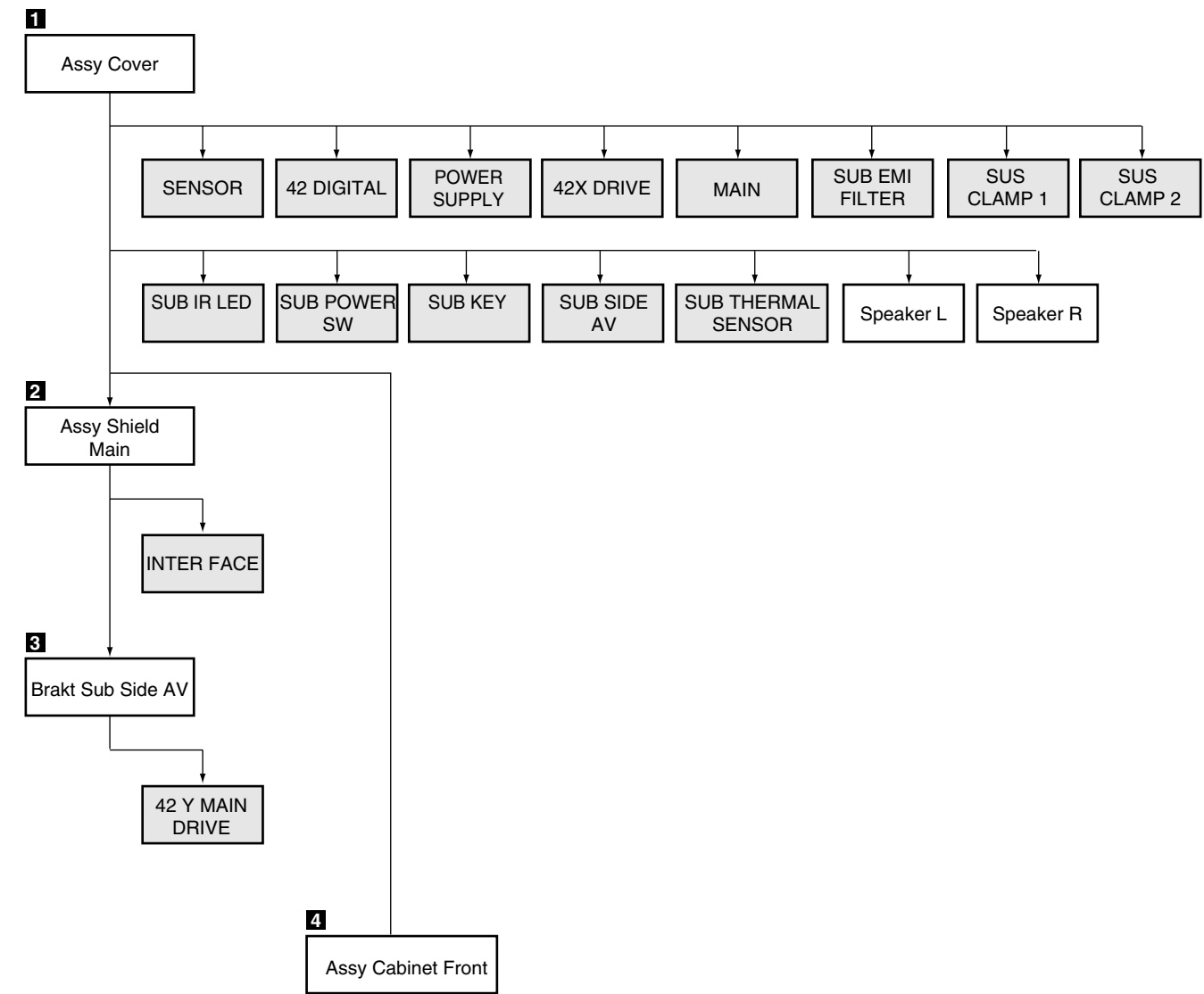


Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:

• PDP-4216HD



Disassembly

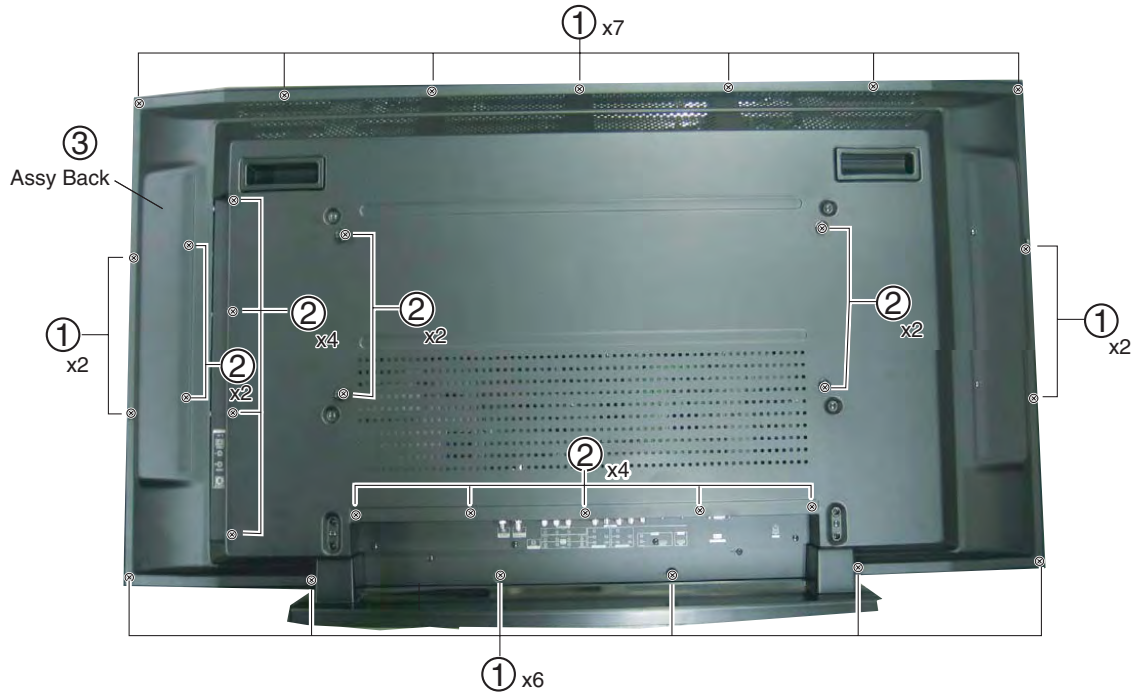
• PDP-4216HD

1 Back Cover (Assy Back)

① Remove the 17 screws.

② Remove the 16 screws

③ Remove the Assy Back

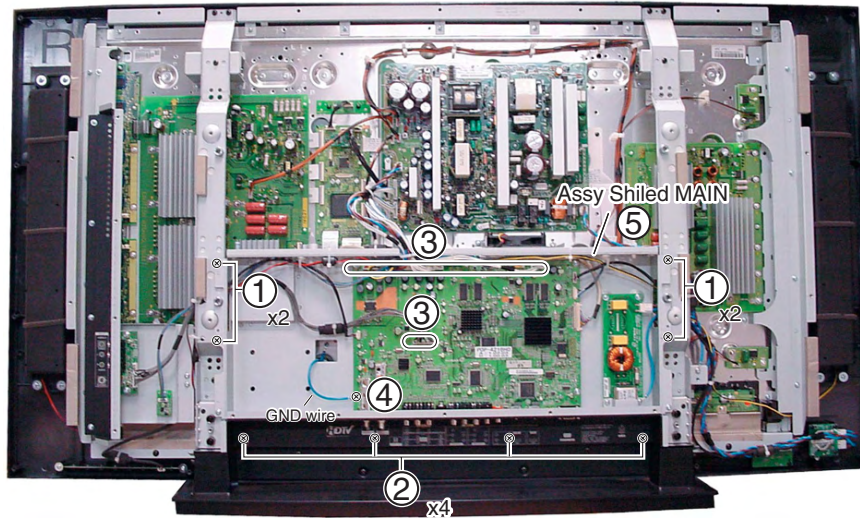


Disassembly

• PDP-4216HD

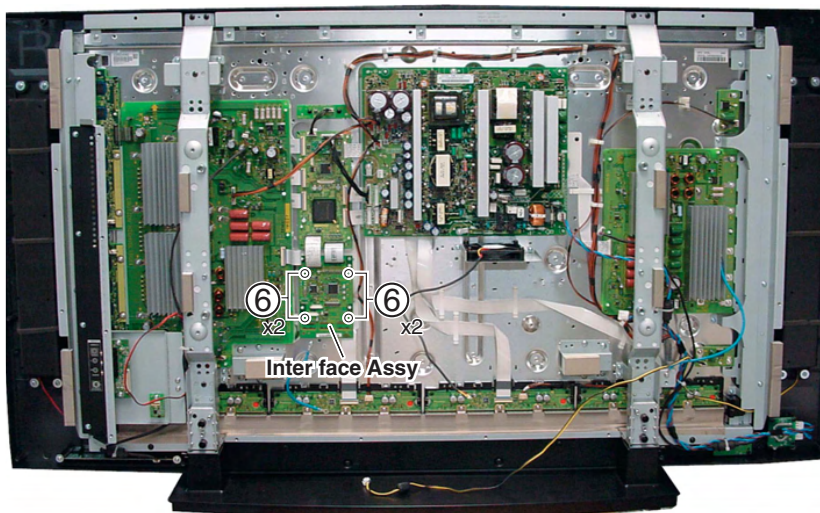
2 Assy Shiled MAIN

- ① Remove the 4 screws.
- ② Remove the 4 screws.
- ③ Disconnect the some connectors
- ④ Remove the the 1 screw. (GND wire)
- ⑤ Remove the Assy Shield MAIN.



• Inter Face Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2 Assy Shield MAIN").
- ⑥ Unhook the 4 spacer



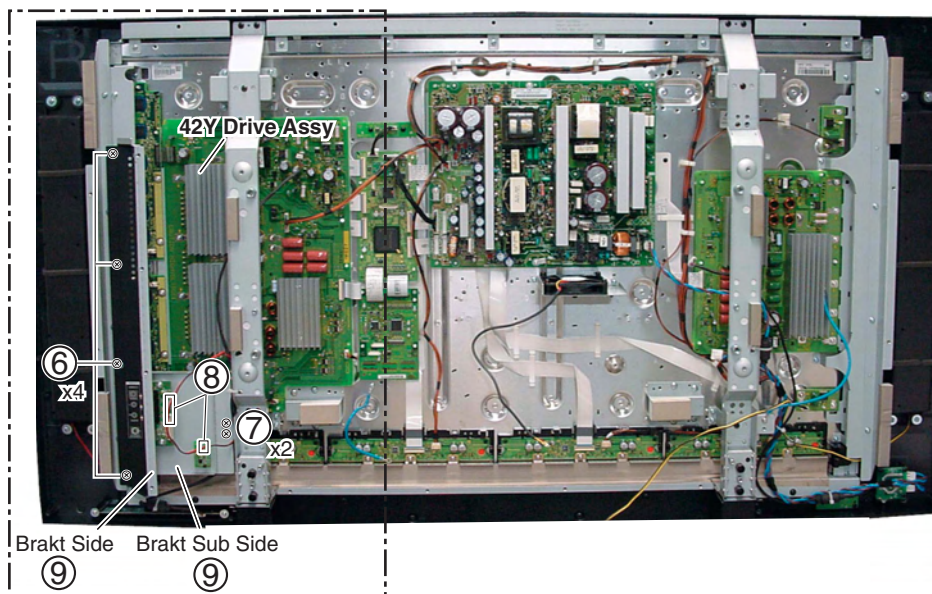
A Disassembly

• PDP-4216HD

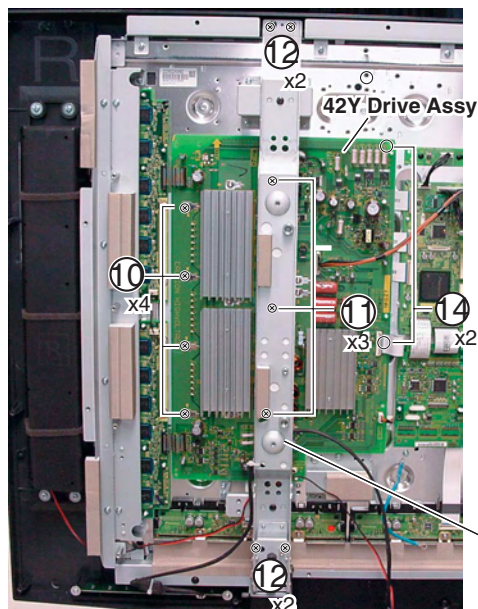
3 Brakt Sub Side AV

• 42Y Drive Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2 Assy Shield MAIN").
- ⑥ Remove the 3 screws.
- ⑦ Remove the 1 screw.
- ⑧ Disconnect the 2 connectors.
- ⑨ Remove the Brakt Side and Brakt Sub Side.



- ⑩ Remove the 4 screws.
- ⑪ Remove the 3 screw.
- ⑫ Remove the 4 screw.
- ⑬ Remove the Assy Brakt V-Supporter- R.
- ⑭ Unhok the 2 hooks.



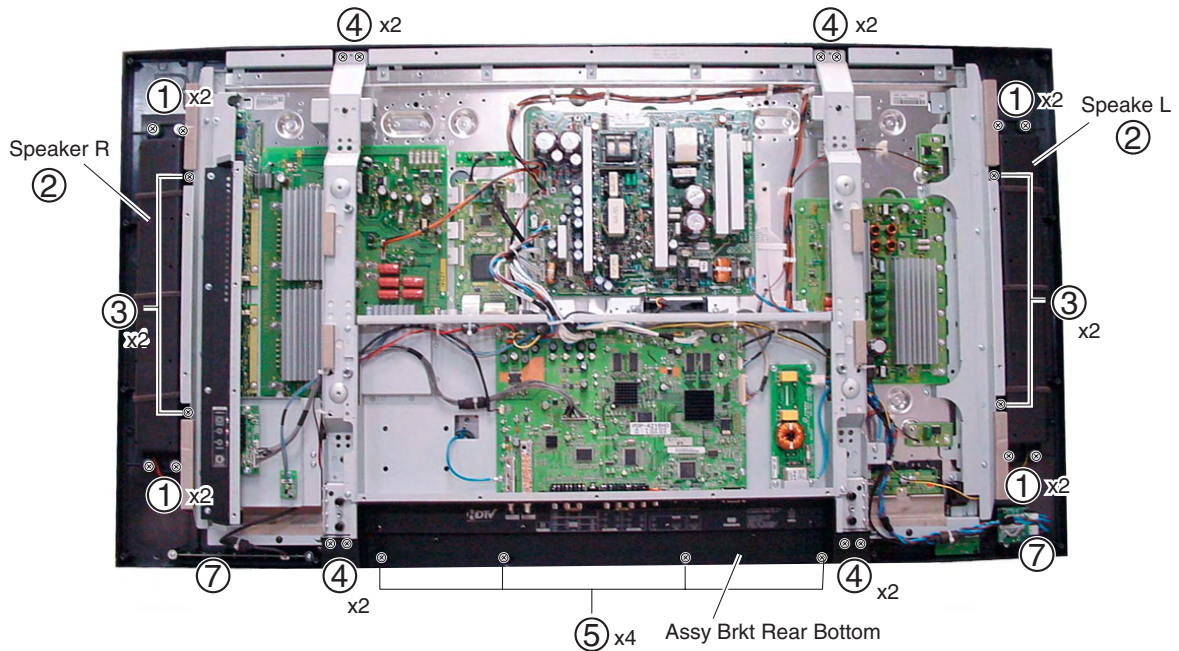
Assy Brakt V-Supporter- R

Disassembly

• PDP-4216HD

4 Assy Cabinet Front

- ① Remove the 8 screws. (Speake L and Speaker R)
- ② Remove the Speake L and Speaker R.
- ③ Remove the 4 screws.
- ④ Remove the 8 screws.
- ⑤ Remove the 4 screws.
- ⑥ Remove the Assy Brkt Rear Bottom.
- ⑦ Disconnect the some connectors. (SUB IR, SUB Power and SUB Key Assys)
- ⑧ Remove the Assy Cabinet Front



7. ADJUSTMENT



- At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
- Any value changed in Factory Menu/Module Adj. mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
- Use a stable AC power supply.

7.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to "7.3 HOW TO CLEAR HISTORY DATA".
DIGITAL Assy	➡	Writing of backup data is required. Refer to the "7.2 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. "
Service Panel Assy	➡	Refer to "7.4 EXCHANGE OF SERVICE PANEL ASSY".
INTERFACE Assy	➡	No adjustment required
MAIN Assy	➡	No adjustment required
SUB IR&LED Assy	➡	No adjustment required
SUB KEY Assy	➡	No adjustment required
SUB SIDE AV Assy	➡	No adjustment required
SUB THERMAL SENSOR Assy	➡	No adjustment required
SENSOR Assy	➡	Writing of backup data is required. Refer to the "7.2 BACKUP WHEN THE PANEL UNIT IS ADJUSTEND".
PDP-4216		
42 X MAIN DRIVE Assy	➡	No adjustment required
42 X SUB DRIVE Assy	➡	No adjustment required
42 Y MAIN DRIVE Assy	➡	No adjustment required
42 Y SUB DRIVE Assy	➡	No adjustment required
PDP-5016		
50 X MAIN DRIVE Assy	➡	No adjustment required
50 X SUB DRIVE Assy	➡	No adjustment required
50 Y MAIN DRIVE Assy	➡	No adjustment required
50 Y SUB DRIVE Assy	➡	No adjustment required

■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy. If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

■ How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.

The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data.

• Copying, using the RS-232C commands

- ① Enter Module Adj. (Refer to "8. MODULE ADJUSTMENT MODE")
- ② RS232C command "FAY" is performed.
- ③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ④ Turn the power off.

2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

• Copying, using the RS-232C commands

- ① Enter Module adj.. (Refer to "8. MODULE ADJUSTMENT MODE")
- ② RS232C command "FAY" is performed.
- ③ Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
- ④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ⑤ Turn the power off.

3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

Note: In this section, it is assumed that settings for various items have been completed, using RS-232C commands.

• Method using the RS-232C commands

Issue the FAJ command.

7.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

(1) Clearance of logs, using the RS-232C commands

Item	Content	When the Panel is replaced	When the POWER SUPPLY Unit is replaced	When the Other Assy is replaced	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	CPM
Shutdown history	Cause of an SD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CSD
Power-down history	Cause of an PD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	CPC
MAX TEMP	Historical max. temperature	Must be cleared	Must be cleared	Must be cleared	CMT

- Notes:**
- As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
 - When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

7.4 EXCHANGE OF SERVICE PANEL ASSY

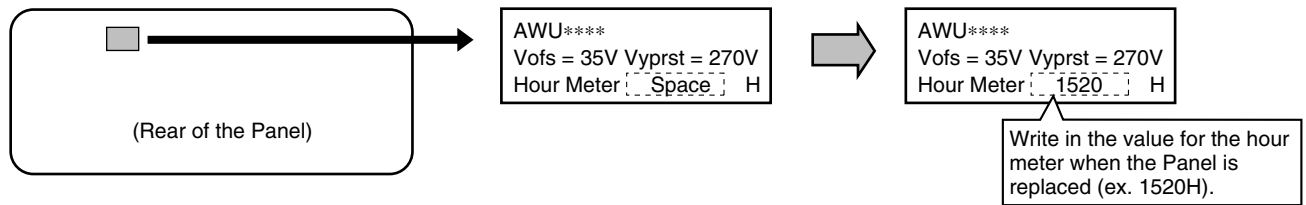
7.4.1 PDP-4216HD ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

When the Panel Assy is replaced with one for service, the following adjustments are required:

■ Adjustments of Vofs voltage and Vyprst voltage

Enter the reference adjustment values for the Vofs voltage and Vyprst voltage that are written on the label attached to the panel for service.

Note: Enter the values, using an RS-232C command.



Enter to "module adjust mode on" of the panel control in the factory menu before beginning the adjustment.
(refer to "8. service factory menu" on SM)

Using an RS-232C command

Enter Module Adj. mode (Refer to "8. MODULE ADJUSTMENT MODE").

Enter a "PFY" command with Factory mode ON.

Convert the adjustment voltage values written on the label attached at the rear of the Panel to an input command, referring to the conversion chart. (See the next page.)

- Reference adjustment of the Vofs voltage: Ex. "Vofs = 35" → (Check the conversion chart.) Enter "VOF112."
- Reference adjustment of the Vyprst voltage: Ex. "Vyprst = 270 V" → (Check the conversion chart.) Enter "VRP078."

■ Clearing data on various histories of the Panel, such as those on the hour meter

- It is necessary to clear the data on the hour meter, etc. to match them to the actual driving hours of the Panel.
- It is also necessary to clear the data on SD and PD, because the accumulated power-on time when a shutdown or power-down occurred is recorded.

Note: Clear the values, using an RS-232C command.

Using an RS-232C command

To acquire the accumulated power-on time of the product itself, use the "QS2" of RS-232C command.

1. To clear the data on the hour meter (for the Panel) : CHM
2. To clear the data on the pulse meter : CPM
3. To clear the data on the SD history : CSD
4. To clear the data on the PD history : CPD

PDP-4216HD Conversion charts for electronic VRs (Vprst/Vofs)

A

Vprst [V]	Setting value [STEP]
236	000
237	002
238	004
239	006
240	009
241	011
242	013
243	016
244	018
245	020
246	022
247	025
248	027
249	029
250	032
251	034
252	036
253	039
254	041
255	043
256	045
257	048
258	050
259	052
260	055
261	057
262	059
263	062
264	064
265	066
266	069
267	071
268	073
269	075
270	078
271	080
272	082
273	085
274	087
275	089
276	092
277	094
278	096
279	098

B

C

D

E

F

Vprst [V]	Setting value [STEP]
280	101
281	103
282	105
283	108
284	110
285	112
286	115
287	117
288	119
289	121
290	124
291	126
292	128
293	131
294	133
295	135
296	138
297	140
298	142
299	144
300	147
301	149
302	151
303	154
304	156
305	158
306	161
307	163
308	165
309	168
310	170
311	172
312	174
313	177
314	179
315	181
316	184
317	186
318	188
319	191
320	193
321	195
322	197
323	200

Vprst [V]	Setting value [STEP]
324	202
325	204
326	207
327	209
328	211
329	214
330	216
331	218
332	220
333	223
334	225
335	227
336	230
337	232
338	234
339	237
340	239
341	241
342	243
343	246
344	248
345	250
346	253
347	255

Vofs [V]	Setting value [STEP]
14	000
15	005
16	010
17	015
18	021
19	027
20	032
21	037
22	043
23	048
24	053
25	059
26	064
27	069
28	075
29	080
30	085
31	091
32	096
33	101
34	107
35	112
36	118
37	123
38	128
39	134
40	139
41	144
42	150
43	155
44	160
45	166
46	171
47	176
48	182
49	187
50	192
51	198
52	203
53	209
54	214
55	219
56	225
57	230

Vofs [V]	Setting value [STEP]
58	235
59	241
60	246
61	251
62	255

Flowchart for panel replacement

A

After replacing the panel with one for service, readjustment of the Vofs voltage margin is required.

(Refer to "8. service factory menu" on SM)

[Preparations]

- The 60-Hz video sequence is used as the drive sequence.

[Supplement]

- If you perform adjustment using RS-232C commands, use the commands shown below.
About entering Module Adj. mode, refer to " 8. MODULE ADJUSTMENT MODE".

PAV S00 : Used to set the Panel Drive mode to Factory.

VFQ S03 : Used to set the Drive Sequence to Video 60 Hz.

WBI S01 : Used to temporarily set the adjustment value of the Panel WB to default. (To return the value to its original value, use WBI S00.)

PGM S00 : Used to set the gamma setting to Factory.

Note: If the power is shut off in the process of the adjustment procedures, send the above commands again.

Before start the Adjustment

1. This Service panel Assy is required to perform this Vofs adjustment. If this adjustment is not enough, some problems such as abnormal lit / dark cells will occur in the near future. Therefore be sure to perform this adjustment with this procedure.

Preparation for Settings

1. Go to the **Module Adj. mode (Refer to "8. MODULE ADJUSTMENT MODE")** by remote control key (INPUT->0->9->1->7), refer to "8service factory menu" on SM.
2. Select the **Panel Control** in the **Factory Menu**
3. Select the **Module Adj Off -> On in the Panel Control**
4. Send [FAY] from PC, then send the following 232C command;

[PAVS00] [VFQS03] [WBIS01] [PGMS00] [MKSS51]

NOTE: It is necessary to use a PC and 232C cross cable for PDP module adjustment.

Adjustment of Vsus, Vyprst and Vofs

- VOL SUS: Send [VSU137] (Set Vsus data to 137(205V))
- VOL RST P: Change Vyprst voltage on panel label to data value -> Send [VRP***] command (set that data)
e.g. Vyprst on panel: 269V -> 059 data. See Convert Chart.)
- VOL OFFSET: Change Vofs voltage on panel label to data value -> set that data as pre-setting value with [VOF***] command

Preparation for adjustment

Display Full white MASK for 30 minutes

It is necessary to warm up panel temperature to prevent incorrect adjustment caused by a margin of panel temp error.

Definition of Abnormal Cells

Abnormal bright Cells: Five cells on screen
(Only one cell within a radius of 1cm)
Abnormal dark Cells: Under fifteen cells on screen.
(Under two cells within a radius of 1cm)
Count abnormal cells at a distance of 1m from panel.
If abnormal cells won't occur longer than one second,
do not count the abnormal cells.
Do not count still bright cells and dark cells

Vofs adjustment START

(Red760) [232C commands]

Send [MKSS59] : Display Red MASK

Send [VOF246] : Set Vofs data to 246 [60V]

Are there any dark cells

No

Vofs_max1 = 246 [60V]

Yes

Decrease Vofs data one volt by one volt
until dark cells disappear.
But, lower limit Vofs is 005 [15V]

Set Vofs data as the following order:
[VOF246] --> [VOF240] --> [VOF235] ...
(Refer to Vofs convert chart)

Vofs_max1 ____ [data]

[VOF***] Write down Vofs_max1 to above space

Vofs_max1 ≥ 118 [36V]?

No

Check circuits (Vofs voltage) or
replace this service panel

Yes

Send [VOF***] : Set back Vofs pre-setting value

Send [MKSS51] : Display White MASK for 3 sec

(Red1023)

Send [MKSS69] : Change MASK to Red1023+

Send [VOF246] : Set Vofs data to 246 [60V]

Are there any dark cells

No

This Vofs becomes Vofs_max2

Yes

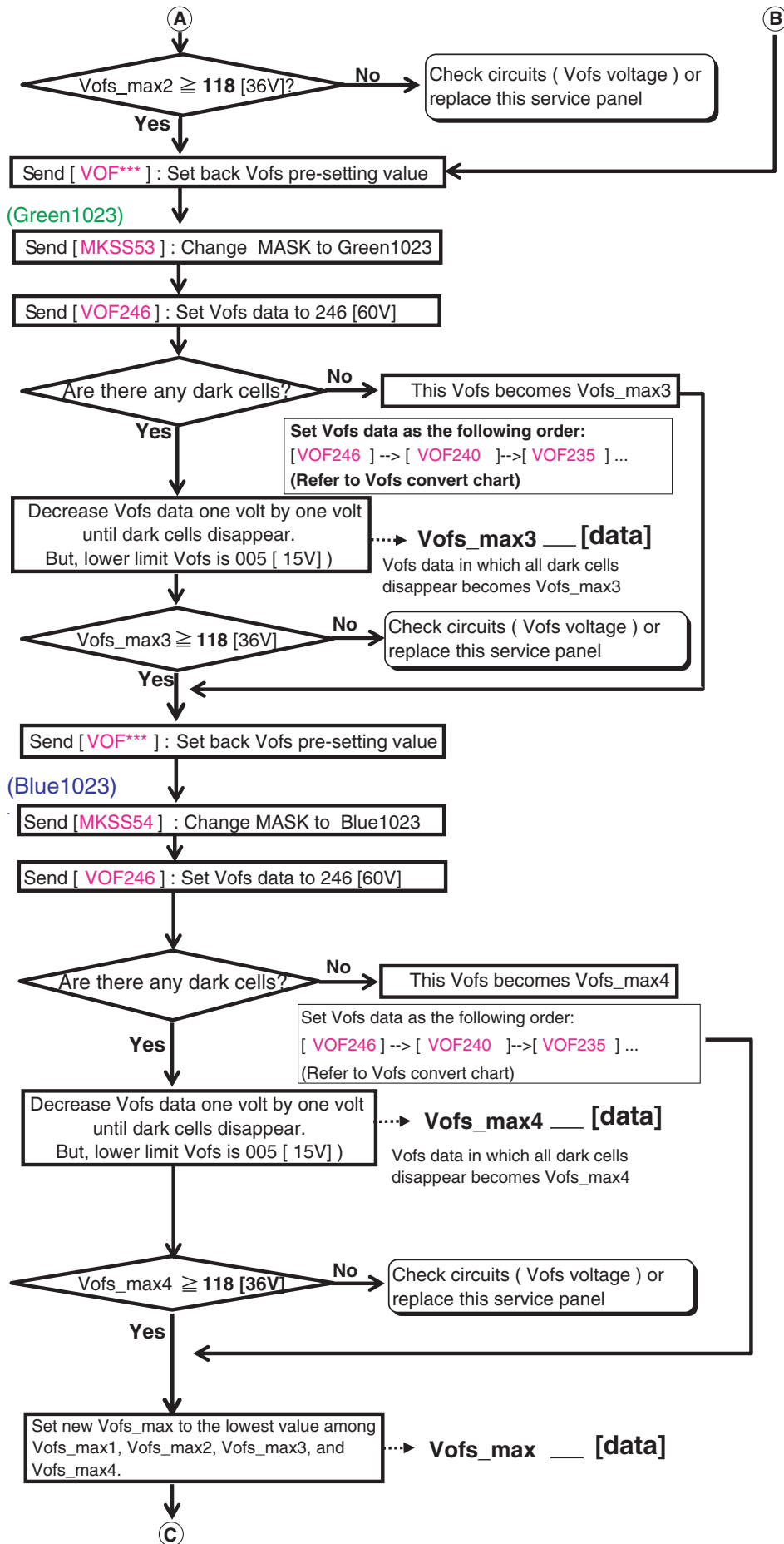
Decrease Vofs data one volt by one
volt until dark cells disappear.
But, lower limit Vofs is 005 [15V]

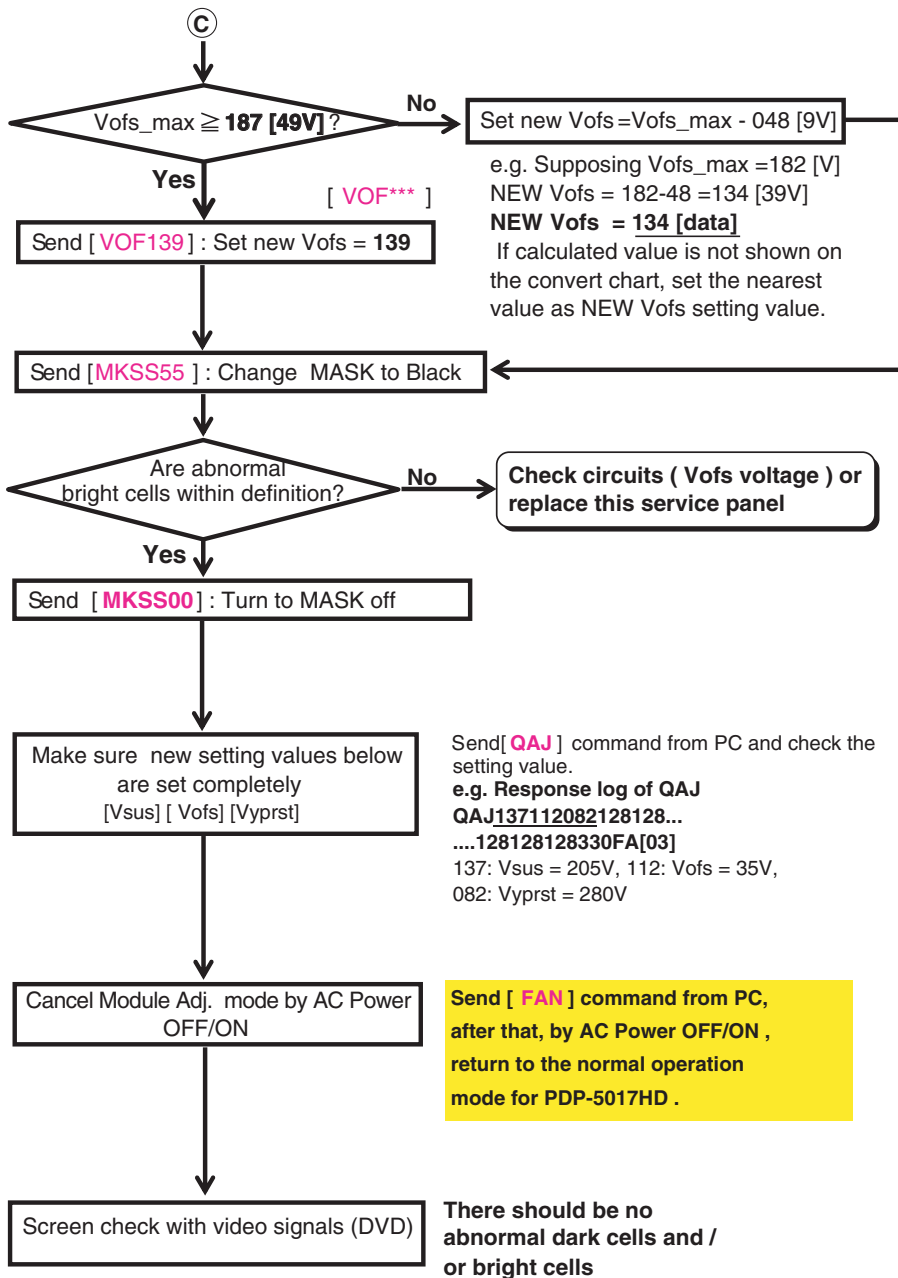
Set Vofs data as the following order:
[VOF246] --> [VOF240] --> [VOF235] ...
(Refer to Vofs convert chart)

Vofs_max2 ____ [data]

Vofs data in which all dark cells
disappear becomes Vofs_max2

- Note -
There are several different colors in RGB MASKs.
(e.g. Red MASK has Red760, Red1023, and Red1023+)
It is necessary to use an appropriate MASK color for Vofs adjustment
to find out abnormal dark cells easily.
Therefore be sure to use correct MASK shown at this procedure.





■ Conversion charts for electronic VRs (Vyprst/ Vofs)

Vofs Data vs. Voltage
Convert Chart

Vofs Voltage [V]	Vofs data [STEP]
15	005
16	011
17	016
18	021
19	027
20	032
21	037
22	043
23	048
24	054
25	059
26	064
27	070
28	075
29	080
30	086
31	091
32	096
33	101
34	107
35	112
36	118
37	123
38	128
39	134
40	139
41	144
42	150
43	155
44	160
45	166
46	171
47	176
48	182
49	187
50	192
51	198
52	203
53	208
54	214
55	219
56	224
57	230
58	235
59	240
60	246

Vyprst Data vs. Voltage Convert Chart

Vyprst voltage [V]	Vyprst data [STEP]
250	013
251	015
252	018
253	020
254	022
255	024
256	027
257	029
258	031
259	034
260	036
261	038
262	040
263	043
264	045
265	047
266	050
267	052
268	054
269	056
270	059
271	061
272	063
273	066
274	068
275	070

Vyprst voltage [V]	Vyprst data [STEP]
276	073
277	075
278	077
279	079
280	082
281	084
282	086
283	089
284	091
285	093
286	096
287	098
288	100
289	102
290	105
291	107
292	109
293	112
294	114
295	116
296	119
297	121
298	123
299	126
300	128

Note:

Date to Command Convert Method

Vofs: Add [VOF] before data value.

e.g. Vofs = 55V -> Command [VOF219]

Vyprst: Add [VRP] before data value.

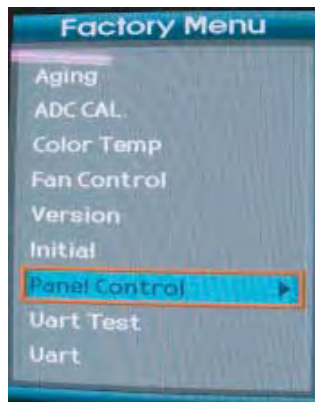
e.g. Vyprst = 275V -> Command [VRP070]

8. MODULE ADJUSTMENT MODE (PDP-4216HD, 5016HD)

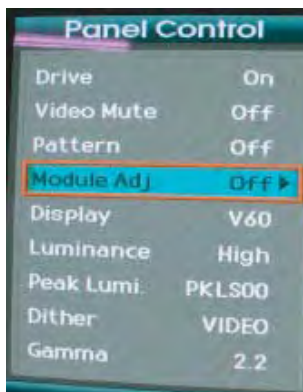
8.1 OUTLINE OF THE MODULE ADJ. MODE

How to enter MODULE ADJ. MODE

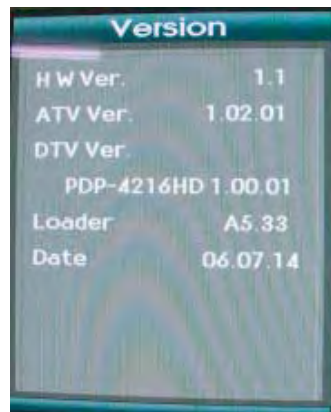
- 1) Remote control operation procedure to shift to Factory Menu is opened by the following key operations.
Push KEY sequentially as follows.
INPUT→ 0→ 9→ 1→ 7
Confirm that entered to Module Adj. mode with factory Menu screen below.
- 4) Method of connection from 232C terminal to PDP module u-com directly. (Adjustment mode for PDP module)
Choose Panel Control of Factory Menu, and push ► key.



- 2) Method of confirm of firmware version
Move the cursor to Version of Factory Menu.
- 5) Choose Panel Control of Factory Menu and turn from " off " to " On " using ► key.



- 3) Push ► key of remote control. The Version is displayed on screen.



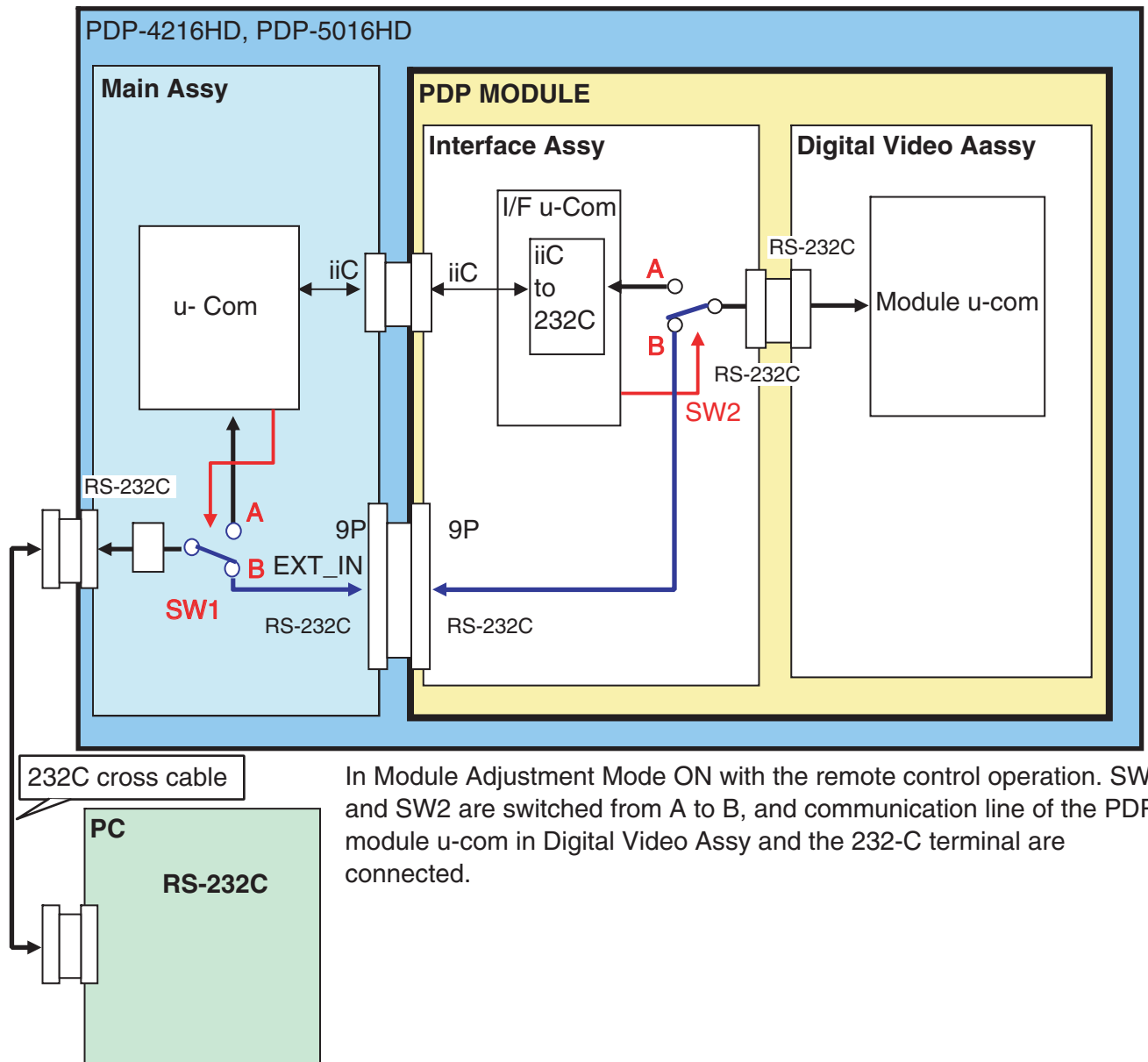
- In the below figure SW1 and SW2, are switched from A to B, and communication line of the PDP module u-com and In this condition, the command can send from the PC to the PDP module.
Return to the normal operation mode by AC power.

Note 1)

Should never change the other parameter of the factory menu, because there is possibility that the performance of the product can not be guaranteed.

Once you going to the Aging mode of the Factory mode which cannot be canceled by AC Power OFF/ON.
To cancel the Aging mode execute "How to cancel when into Aging action by mistake" procedure.

Communication of Module Adjustment Mode ON



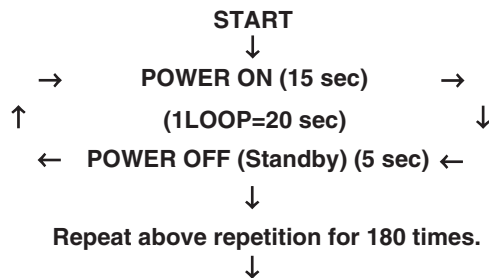
■ How to cancel when entered into Aging action by mistake

- 1) Remote control operation procedure for shifting to Factory Menu
Open Factory Menu by operating following keys:
INPUT → 0 → 9 → 1 → 7

Factory Menu opens as follows:



- 2) When pressing ► key on remote control while a cursor is on "Aging", Aging Mode is set and the following behavior is conducted.



After repeating 180 times, keep the Aging screen displayed.

Note) Once Aging mode is set, the cancel release is not available even when AC power is either ON or OFF.
When the power is once turned OFF and then ON again, the behavior continues from the state just before it is turned OFF.
For cancelling forcibly, follow the steps below.

● How to leave Aging Mode

During Aging mode, operate the following with remote control.

INPUT → 1 (Note 1)

Leave Aging mode and Factory Menu opens.



Leave Factory Menu using EXIT key on remote control.

Note 1) Press INPUT key and the LED on power indicator turns on red and blue simultaneously (purple) (for about 1 second).
Press 1 key during that moment.
Operation of INPUT → 1 after interval of more than 1 second will not cancel Aging.

9. RS-232C

9.1 OUTLINE OF THE RS-232C

9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (cross)

* It is likely not to move correctly in Win 98 faction/Me and Win for foreign countries.

* The setting of the Com port cannot be communicated if it doesn't do correctly.

(Please follow a set explanation of PC in the Com port)

A

B

C

D

E

F

9.1.2 COMMAND PROTOCOL

■ Communication protocol : Asynchronous serial communication by RS-232C

Start bit length : 1 bit
Data width : 8 bit (ASCII code/ no distinction between upper case and lower case)
Parity : None
Stop bit length : 1 bit
Baud rate : 1200/2400/4800/19200/38400 bps (Initial value : 9600 bps)

■ Adjustment function

Direct effectivity of numbers : When a number is transmitted after a command, an adjustment value can be directly set.

■ Data format

The format of the control signal transmitted from the user side controller is as described below.

STX (02Hex) is arranged at the time of communication start and ETX (03Hex) is arranged at the time of data transmission complete, and ID, command and parameter are arranged in between. Data consists of ASCII type alphanumeric characters, and there is no distinction between the upper case and the lower case.

■ In the case of command only
[single function command]

STX	ID	Command	ETX
0x02	**	□□□	0x03

■ When setting/adjustment data is accompanied
[setting/adjustment command]

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

■ Command processing

Command processing starts as soon as the command is entered.

ID shall be the two asterisks, "**".

■ Confirmation of reception

The module microcomputer will make judgment to the command received from the main side, and if the command is judged to be an effective one, processing will be executed. When the system is in the standby status for the next command after completion of the processing, a reply to the received command is sent out. The data to be responded is a data in the upper case after deleting the ID code from the received command.

■ When setting/adjustment data is accompanied

Data transmitted from PC

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

Reply data

STX	Command	Parameter	ETX
0x02	□□□	△△△	0x03

■ In the case of command only

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	□□□	0x03

When responding, ERR is sent back if the command is unknown, and XXX is sent back if the command itself is valid but it cannot be processed because of its status.

■ In the case of invalid command

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	ERR	0x03

■ In the case of a command not executable due to its status

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	XXX	0x03

■ Processing in the case of an error

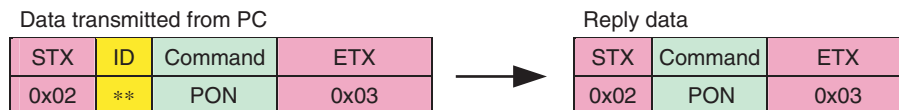
If a communication error occurs between STX and ETX, processing of that command is stopped, and the reception buffer is cleared.

In the command reception process, the character string transmitted after the receipt of STX are continued to be stored in the register, and by receipt of ETX, the character string sandwiched between STX and ETX is recognized as a command. If the prepared character string storage buffer (24 bytes including STX, ID and ETX) is exceeded, a reply will not be sent out.

9.1.3 DEFINITION OF COMMAND

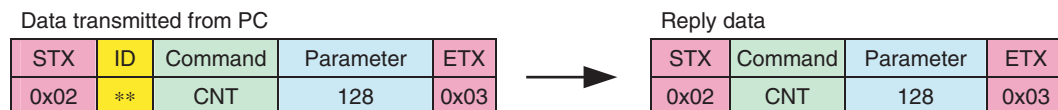
■Single function command

It is a command that a command alone will complete an operation, and the command section consists of three characters.



■Adjustment command and adjustment value

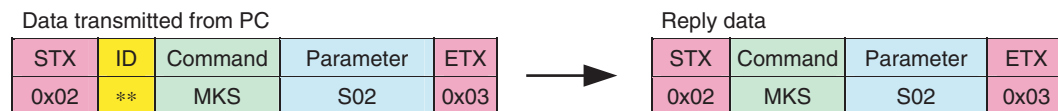
It is a command, accompanied by an adjustment value, to change the parameter value, and the command section is also three characters as in the case of a single function command. The adjustment value is a three character decimal numerical data within the range of 000-999. Incidentally, the adjustable range will be different depending on the function to be adjusted. (Be careful as it is not always up to 999.)



- * XXX will be transmitted if the received command is exceeding the adjustable range of the adjustment value.
- * When the same setting value is transmitted consecutively for two times or more, the setting is overwritten without responding with XXX even though the command is invalid, and an ACK after deleting the ID is sent back.

■Setting command and setting value

It is a command, accompanied by a setting value, to change the setting value of the parameter, and the command section consists of three characters. The setting value consists of three characters, and the first character is fixed to S and the remaining two characters are decimal numbers within the range of S00-S99.



- * XXX will be transmitted if the received command does not exist as a setting value.
- * When the same setting value is transmitted consecutively for two times or more, the setting is overwritten without responding with XXX even though the command is invalid, and an ACK after deleting the ID is sent back.

■Status acquisition (QUEST) command

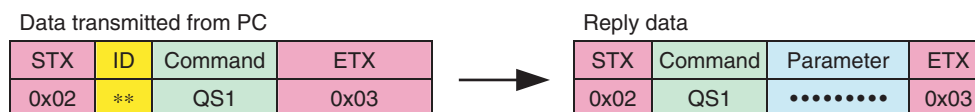
This is a command to report the operational status and the setting value to the system side.

When a command is received from the system side, an applicable content depending on the type of command is read out from the memory and sent back.

The command section consists of three characters, and the first character is fixed to Q. The second character and on are set depending on the content of the information.

When sending back a reply data, the received command, various data converted to ASCII code and checksum of that data are added and sent.

The data length will be subject to each individual specification as the content of a reply will be different depending on the type of QUEST command.



9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Module Adj. mode.

See "8. MODULE ADJUSTMENT MODE".

[Note ; If you want to see version information (ex. QS1), Please see 10 seconds after starting.]

RS-232C command list

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
A					
ABL	***	Adjusting the upper limit of the power	Mod	●	
APW	S00	WB correction interlocked with APL: OFF		●	
	S01	WB correction interlocked with APL: ON		●	
B					
BCP		Copying the backup data in the EEPROM		●	
C					
CBU		Clearing backup data of EEPROM		●	
CHM		Clearing data of the hour meter		●	
CNT		Clearing data of the maximum temperature		●	
CPC		Clearing power-on count data		●	
CPD		Clearing power-down history		●	
CPM		Clearing data of the pulse meter		●	
CSD		Clearing shutdown history		●	
CTM		Clearing working log		●	
D					
DRV	S00	Main power off			
	S01	Main power on			
E					
ESV	S00	Setting Power Consumption mode to normal sequence & normal curve			
	S01	Setting Power Consumption mode to silent sequence & normal curve			
	S02	Setting Power Consumption mode to silent sequence & power-saving curve			
	S10	Setting Power Consumption mode to normal sequence & normal curve			
	S11	Setting Power Consumption mode to silent sequence & normal curve			
	S12	Setting Power Consumption mode to silent sequence & power-saving curve			
F					
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"		●	
FAN		Factory mode off		●	
FAY		Factory mode on			
M					
MKC	S00	MASK off	Mod	●	
	S01	H ramp (slant 1) M	Mod	●	
	S02	H ramp (slant 4) M	Mod	●	
	S03	Slanting ramp M	Mod	●	
	S04	30 for aging	Mod	●	
	S05	05 for aging	Mod	●	
	S06	Erasing afterimage 1	Mod	●	
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	Mod	●	
	S08	White (change in luminance level)	Mod	●	
	S09	PEAK SEEK RASTER	Mod	●	
	S10	For engineering use	Mod	●	
MKS	S00	MASK off	Mod		
	S01	H ramp (slant 1)	Mod	●	
	S02	H ramp (slant 4)	Mod	●	
	S03	V ramp (slant 1)	Mod	●	
	S04	Slanting ramp	Mod	●	
	S05	Window (Hi= 870, Lo= 102)	Mod	●	
	S06	Window (Hi= 1023, Lo= 102)	Mod	●	

Command Name	Function	Last Memory	Effective only in Factory mode	Remarks
M				
MKS	S07 Window (Hi= 1023)	Mod	●	
	S08 Window (Hi= 1023) 4 %	Mod	●	
	S09 Window (Hi= 1023) 1.25 %	Mod	●	
	S10 Window (1/7 LINE)	Mod	●	
	S11 STRIPE (MGT/GRN)	Mod	●	
	S12 STRIPE (GRN/MGT)	Mod	●	
	S13 B & W, checker (1 line)	Mod	●	
	S14 B & W, checker (2 lines)	Mod	●	
	S15 B & W, checker (4 lines)	Mod	●	
	S16 B & W, checker (8 lines)	Mod	●	
	S17 COLOR BAR	Mod	●	
	S18 Slanting lines	Mod	●	
	S19 Red & black, checker (1 line)	Mod	●	
	S20 Red & black, checker (2 lines)	Mod	●	
	S21 Red & black, checker (4 ines)	Mod	●	
	S22 Red & black, checker (8 lines)	Mod	●	
	S23 RGB zigzag, V reverse	Mod	●	
	S24 SUS 2000 pulses (black raster)	Mod	●	
	S25 Window (Hi= 870, Lo= 102) Pattern 3	Mod	●	
	S26 Window (Hi= 1023, Lo= 102) Pattern 3	Mod	●	
	S27 Window (Hi= 1023) Pattern 3	Mod	●	
	S28 Window (Hi= 1023) 4 % Pattern 3	Mod	●	
	S29 Window (Hi= 1023) 1.25 % Pattern 3	Mod	●	
	S30 Window (1/7 LINE) Pattern 3	Mod	●	
	S31 Noise ON - White	Mod	●	
	S32 Noise ON - Red	Mod	●	
	S33 Noise ON - Green	Mod	●	
	S34 Noise ON - Blue	Mod	●	
	S35 Noise ON - Black	Mod	●	
	S36 For engineering use	Mod	●	
	S37 For engineering use	Mod	●	
	S38 For engineering use	Mod	●	
	S39 For engineering use	Mod	●	
	S51 Raster - White	Mod	●	
	S52 Raster - Red	Mod	●	
	S53 Raster - Green	Mod	●	
	S54 Raster - Blue	Mod	●	
	S55 Raster - Black	Mod	●	
	S56 Raster - Cyan	Mod	●	
	S57 Raster - Magenta	Mod	●	
	S58 Raster - Yellow	Mod	●	
	S59 RASTER09: Red 588	Mod	●	
	S60 RASTER10: Cyan 460	Mod	●	
	S61 RASTER11: Green 774	Mod	●	
	S62 RASTER12: Gray 313	Mod	●	
	S63 RASTER13: Gray 912	Mod	●	
	S64 RASTER14: Magenta1023	Mod	●	
	S65 RASTER15: Pale orange	Mod	●	
	S66 RASTER16: Sky color	Mod	●	

A

B

C

D

E

F

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
M					
MKS	S67	RASTER17: Pale purple	Mod	●	
	S68	RASTER18: Magenta 54	Mod	●	
	S69	RASTER19: Red 1023+	Mod	●	
	S70	RASTER20: Green 1023+	Mod	●	
	S71	RASTER21: Blue 1023+	Mod	●	
	S72	RASTER22: Red 588+	Mod	●	
	S73	RASTER23: Green 588+	Mod	●	
	S74	RASTER24: Blue 588+	Mod	●	
P					
PAV	S**	Switching panel functions interlocked with the AV selection			
PBH	***	Panel white balance adjustment - Blue highlight	Mod	●	
PBL	***	Panel white balance adjustment - Blue low light	Mod	●	
PDM	S00	Passing PD signals to the Power SUPPLY Unit => Power-down			
	S01	Not passing PD signals to the Power SUPPLY Unit => No power-down			
PFN		Factory mode: off		●	
PFS		Setup at shipment		●	
PFY		Factory mode: on		●	
PGH	***	Panel white balance adjustment - Green highlight	Mod	●	
PGL	***	Panel white balance adjustment - Green low light	Mod	●	
PGM	S**	Setting of the gamma table			
PMT	S00	Canceling panel muting			
	S01	Panel muting			
PPT	S00	Panel protection: off		●	
	S01	Panel protection: on		●	
PRH	***	Panel white balance adjustment - Red highlight	Mod	●	
PRL	***	Panel white balance adjustment - Red low light	Mod	●	
Q					
QAJ		Acquiring various adjustment values			
QIP		Acquiring various input signal data			
QPD		Acquiring logs of power-down points			
QPM		Acquiring data of the pulse meter			
QPW		Acquiring panel white balance adjustment values			
QS1		Acquiring unit data, such as the software version common to all models, regardless of destination			
QS2		Acquiring data on the status of the unit, such as temperature			
QSD		Acquiring data on shutdown			
QSI		Acquiring data related with signals			
R					
RBL	S**	Setting of blue level for panel degradation correction	Mod	●	
RGL	S**	Setting of green level for panel degradation correction	Mod	●	
RRL	S**	Setting of red level for panel degradation correction	Mod	●	
RSW	***	Adjustment of the width of XY reset pulse 1	Mod	●	
RYW	***	Adjustment of the width of XY reset pulse 2	Mod	●	
S					
SDM	S00	Shutdown enabled			
	S01	Shutdown prohibited			
SFR	S01	Measures against AM radio noise - Pattern 1	Mod	●	
	S02	Measures against AM radio noise - Pattern 2	Mod	●	

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
S					
SFR	S03	Measures against AM radio noise - Pattern 3	Mod	●	
	S04	Measures against AM radio noise - Pattern 4	Mod	●	
	S05	Measures against AM radio noise - Pattern 5	Mod	●	
	S06	Measures against AM radio noise - Pattern 6	Mod	●	
	S07	Measures against AM radio noise - Pattern 7	Mod	●	
	S08	Measures against AM radio noise - Pattern 8	Mod	●	
SMM	S**	Setting of the effective area during streaking correction		●	
SN0	***	Setting of the serial No. 0 (panel)	Mod	●	
SN1	***	Setting of the serial No. 1 (panel)	Mod	●	
SN2	***	Setting of the serial No. 2 (panel)	Mod	●	
SN3	***	Setting of the serial No. 3 (panel)	Mod	●	
SN4	***	Setting of the serial No. 4 (panel)	Mod	●	
T					
-		-			
U					
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"			
V					
VFQ	S01	Setting the frequency in Mask mode to VD-48 Hz	Mod	●	
	S02	Setting the frequency in Mask mode to VD-50 Hz	Mod	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	Mod	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	Mod	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz	Mod	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	Mod	●	
	S14	Setting the frequency in Mask mode to PC-70 Hz	Mod	●	
	S22	Setting the frequency in Mask mode to VD-50 Hz (nonstandard)	Mod	●	
	S23	Setting the frequency in Mask mode to VD-60 Hz (nonstandard)	Mod	●	
	S25	Setting the frequency in Mask mode to VD-72 Hz (nonstandard)	Mod	●	
	S26	Setting the frequency in Mask mode to VD-75 Hz (nonstandard)	Mod	●	
VOF	***	Adjustment of the reference value of Vofs voltage		●	
VRP	***	Adjustment of the reference value of Vrst-p voltage		●	
VSU	***	Adjustment of the reference value of Vsus voltage		●	
W					
WBI	S00	Panel WB standard output mode: off		●	
WBI	S01	Panel WB standard output mode: on		●	
X					
XSB	***		Mod	●	
Y					
YSB	***	Y-SUS-B ADJ	Mod	●	
YTB	***	Y-SUSTAIL T2 ADJ	Mod	●	
YTG	***	Y-SUSTAIL T1 ADJ	Mod	●	
YTW	***	Y-SUSTAIL W ADJ	Mod	●	
Z					
ZPR		Initializing the setting data to which no adjustment command is provided		●	

9.3 OUTLINE OF RS-232C COMMANDS

9.3.1 QS1

A

Returning information on the module and the version of the software.

Format	Effective Condition	Function	Remarks
QS1	Every Time	Output of status	Reply Data : 105Byte

Order	Data	Size	Context
0	Received Command Name	3 byte	'QS1' only
1	Display Information 1	1 byte	
2	Display Information 2	1 byte	
3	Display Information 3	1 byte	
4	Display Information 4	1 byte	
5	Display Information 5	1 byte	
6	Boot Version of Module microcomputer.	3 byte	
7	Program Version of Module microcomputer.	8 byte	
8	Boot Version of Astra-MANTA.	3 byte	
9	Program Version of Astra-MANTA.	8 byte	
10	Sequence Version for VIDEO.	4 byte	
11	Sequence Version for PC.	4 byte	
12	Panel Type.	1 byte	
13	Reserved	7 byte	

B

C

D

E

F

■ Acquisition of panel operation data ••• [QS2]

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+23(DATA)+2(CS)= 28 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QS2
1	Notification of mode shifting to STB	1 Byte	1
2	Flag for adjustment of the main unit	1 Byte	0
3	Flag for adjustment-data backup	1 Byte	0
4	"1st PD" data	1 Byte	0
5	"2nd PD" data	1 Byte	0
6	Still picture detection	1 Byte	0
7	Reserved	2 Byte	**
8	Temperature data (TEMP 1)	3 Byte	128 (*1)
9	SD main data	1 Byte	0
10	SD sub data	1 Byte	0
11	Operation status induced by SD	1 Byte	0
12	Data from the hour meter	8 Byte	00000259 (*2)
13	MASK indication	1 Byte	0
CS		2 Byte	4A

Note : (*1) The unit scale is centigrade. The data is A/D value from the thermal sensor.

(*2) "00000259" of "Data from the hour meter" means 2 hours 59 minutes.

1: Notification of mode shifting to Standby	
0	Entering Standby mode failed
1	Entering Standby mode succeeded

2: Adjustment of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup	
0	With backup data
1	No data (default)

4, 5: PD data	
0	No PD data
1	Not used
2	POWER
3	SCAN
4	SCN-5V
5	Y-DRV
6	Y-DCDC
7	Y-SUS
8	ADRS
9	X-DRV
A	X-DCDC
B	X-SUS
C	Not used
D	Not used
E	Not used
F	UNKNOWN

6: Still picture detection	
0	Normal screen
1	Still picture

9: SD main data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

10-1: SD-Sub (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

10-2: SD-Sub (IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD-Sub (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

13: MASK indication	
0	MASK-OFF
1	MASK-ON

A The command QIP is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QIP]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+58(DATA)+2(CS)= 63 Byte

B

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QIP
1	SERIAL	15 Byte	-----
2	HOURLY METER	8 Byte	00000000
3	TOTAL HOURLY METER	8 Byte	00000000
4	PON COUNTER	8 Byte	00000000
5	TEMP1 acquisition (Temperature value)	5 Byte	+23.5 (*1)
6	TEMP0 acquisition (Temperature value)	5 Byte	+28.7 (*1)
7	MAX-TEMP1 acquisition (Temperature value)	5 Byte	+78.3 (*1)
8	Reserved	4 Byte	****
CS		2 Byte	94

Note
(*1) : Centigrade scale

C 9.3.4 ACQUISITION OF PANEL ADJUSTMENT DATA (COMMON DATA) ••• [QAJ]

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+41(DATA)+2(CS)= 46 Byte

D

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QAJ
1	V-SUS adjustment value	3 Byte	128
2	V-OFT adjustment value	3 Byte	128
3	V-RST-P adjustment value	3 Byte	128
4	Reserved	3 Byte	***
5	XSB adjustment value	3 Byte	128
6	YSB adjustment value	3 Byte	128
7	YTG adjustment value	3 Byte	128
8	YTW adjustment value	3 Byte	128
9	RSW adjustment value	3 Byte	128
10	YTB adjustment value	3 Byte	128
11	RYW adjustment value	3 Byte	128
12	R-REVICE setting value	1 Byte	0
13	G-REVICE setting value	1 Byte	0
14	B-REVICE setting value	1 Byte	0
CS		2 Byte	B7

E

- For each REVISE setting value, the level set for RRL, RGL, or RBL is transmitted as one character.

F

9.3.5 ACQUISITION OF ABL/WB ADJUSTMENT DATA ••• [QPW]

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+35(DATA)+2(CS)= 40 Byte

Data Arrangement	Data Length	Output Example	1: Drive sequence	12, 15: Setting for Items 12 and 15
ECO	3 Byte	QPW	48V Video 48 Hz	0 OFF
1 Drive sequence	3 Byte	60V	50V Video 50 Hz	1 ON
2 Standard/nonstandard	1 Byte	S	60V Video 60 Hz	
3 Type of ABL/WB tables	2 Byte	T2	72V Video 72 Hz	13: Peripheral luminance correction
4 ABL adjustment value	3 Byte	128	75V Video 75 Hz	0 OFF
5 R-HIGH adjustment value	3 Byte	256	60P PC 60 Hz	2 ON (interlocked with APL)
6 G-HIGH adjustment value	3 Byte	256	70P PC 70 Hz	
7 B-HIGH adjustment value	3 Byte	256		
8 R-LOW adjustment value	3 Byte	512		
9 G-LOW adjustment value	3 Byte	512	2: Standard/nonstandard	16: Transition of brightness by protective operations
10 B-LOW adjustment value	3 Byte	512	S Standard	0 Upper limit state for brightness
11 Gamma setting	1 Byte	A	N Nonstandard	1 Brightness being reduced
12 Streaking correction	1 Byte	1		2 Lower limit state for brightness
13 Peripheral luminance correction	1 Byte	0		3 Brightness being increased
14 Reserved	1 Byte	*	3: Type of ABL/WB tables	
15 WB interlocked with APL	1 Byte	0	Tn n: 1 to 4	
16 Transition of protective operations	1 Byte	0		
17 Reserved	2 Byte	**	11: Gamma setting	
CS	2 Byte	37	n 0 to F	

9.3.6 ACQUISITION OF PULSE METER VALUE ••• [QPM]

The command QPM is for acquiring the accumulated number of pulses of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+40(DATA)+2(CS)= 45 Byte

Data Arrangement	Data Length	Output Example
ECO	3Byte	QPM
1 Pulse meter B 1	8Byte	00000000
2 Pulse meter B 2	8Byte	00000000
3 Pulse meter B 3	8Byte	00000000
4 Pulse meter B 4	8Byte	00000000
5 Pulse meter B 5	8Byte	00000000
CS	2Byte	E7

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

A

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	All operations	To acquire data on the power-down logs	Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte

B

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QPD
1	Latest "1st PD" data	1 Byte	A
2	Latest "2nd PD" data	1 Byte	2
3	Data from the hour meter for the latest PD	8 Byte	00010020
4	Second latest "1st PD" data	1 Byte	E
5	Second latest "2nd PD" data	1 Byte	9
6	Data from the hour meter for the second latest PD	8 Byte	00008523
7	Third latest "1st PD" data	1 Byte	4
8	Third latest "2nd PD" data	1 Byte	3
9	Data from the hour meter for the third latest PD	8 Byte	00004335
10	Fourth latest "1st PD" data	1 Byte	2
11	Fourth latest "2nd PD" data	1 Byte	0
12	Data from the hour meter for the fourth latest PD	8 Byte	00000945
13	Fifth latest "1st PD" data	1 Byte	4
14	Fifth latest "2nd PD" data	1 Byte	0
15	Data from the hour meter for the fifth latest PD	8 Byte	00000715
16	Sixth latest "1st PD" data	1 Byte	A
17	Sixth latest "2nd PD" data	1 Byte	2
18	Data from the hour meter for the sixth latest PD	8 Byte	00000552
19	Seventh latest "1st PD" data	1 Byte	A
20	Seventh latest "2nd PD" data	1 Byte	0
21	Data from the hour meter for the seventh latest PD	8 Byte	00000213
22	Eighth latest "1st PD" data	1 Byte	D
23	Eighth latest "2nd PD" data	1 Byte	0
24	Data from the hour meter for the eighth latest PD	8 Byte	000001A7
CS		2 Byte	27

1, 2, 4, 5: PD data	
0	No PD
1	Not used
2	P-POWER
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	Address
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

E

F

9.3.8 ACQUISITION OF SD LOGS ••• [QSD]

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	All operations	To acquire data on the shutdown logs	Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3Byte	QSD
1	Latest SD data	1byte	1
2	Latest SD subcategory data	1byte	0
3	Data from the hour meter for the latest SD	8byte	00752013
4	Second latest SD data	1byte	5
5	Second latest SD subcategory data	1byte	0
6	Data from the hour meter for the second latest SD	8byte	00495204
7	Third latest SD data	1byte	2
8	Third latest SD subcategory data	1byte	3
9	Data from the hour meter for the third latest SD	8byte	00100355
10	Fourth latest SD data	1byte	2
11	Fourth latest SD subcategory data	1byte	5
12	Data from the hour meter for the fourth latest SD	8byte	00075620
13	Fifth latest SD data	1byte	1
14	Fifth latest SD subcategory data	1byte	0
15	Data from the hour meter for the fifth latest SD	8byte	00000852
16	Sixth latest SD data	1byte	2
17	Sixth latest SD subcategory data	1byte	5
18	Data from the hour meter for the sixth latest SD	8byte	000000451
19	Seventh latest SD data	1byte	0
20	Seventh latest SD subcategory data	1byte	0
21	Data from the hour meter for the seventh latest SD	8byte	00000000
22	Eighth latest SD data	1byte	0
23	Eighth latest SD subcategory data	1byte	0
24	Data from the hour meter for the eighth latest SD	8byte	00000000
CS		2Byte	7D

● SD data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

● SD subcategory (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

● SD subcategory (MDU-IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

● SD subcategory (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

9.3.9 ACQUISITION OF INPUT SIGNAL DATA ••• [QSI]

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	All operations	To acquire all data on input video signals	Return data: 3 (ECO)+66(DATA)+2(CS)= 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence	3 Byte	60V
2	Standard/nonstandard	1 Byte	S
3	Type of ABL/WB tables	2 Byte	T1
4	Total value of PCN	4 Byte	0256
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Total value of PBR	4 Byte	0512
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	Detection of V frequency	4 Byte	6002
14	Detection of existence of H	1 Byte	Y
15	Reserved	3 Byte	***
16	Obtained APL data	4 Byte	1023
17	Number of SUS pulses	4 Byte	0457
18	Result of detection of still picture	1 Byte	1
19	Result of detection of cracking in the panel	1 Byte	1
20	Result of detection for scanning protection	1 Byte	1
21	Result of detection for external protection	1 Byte	1
22	Transition of protection operation	1 Byte	0
23	Reserved	4 Byte	****
CS		2 Byte	27

14: Detection of existence of H

N	No H
Y	H detected

18 to 20: Each protection operation status

0	Setting OFF
1	Setting ON (waiting)
2	Setting ON (during operation)

22: Transition of brightness by protection operation

0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

9.3.10 SETTING FOR FACTORY MODE PERMISSION / PROHIBITION ••• [FAY / FAN]

■ Setting for Factory mode permission/prohibition ••• [FAY/FAN]

The commands FAY/FAN are for prohibiting/permitting panel-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjust command is valid.	Mask indications will be forcibly turned off.
[FAN]	During FAY	Adjust command is invalid.	

9.3.11 BACKUP FUNCTION FOR ADJUSTMENT VALUE FOR THE MAIN UNIT••• [FAJ / UAJ / CBU / BCP]

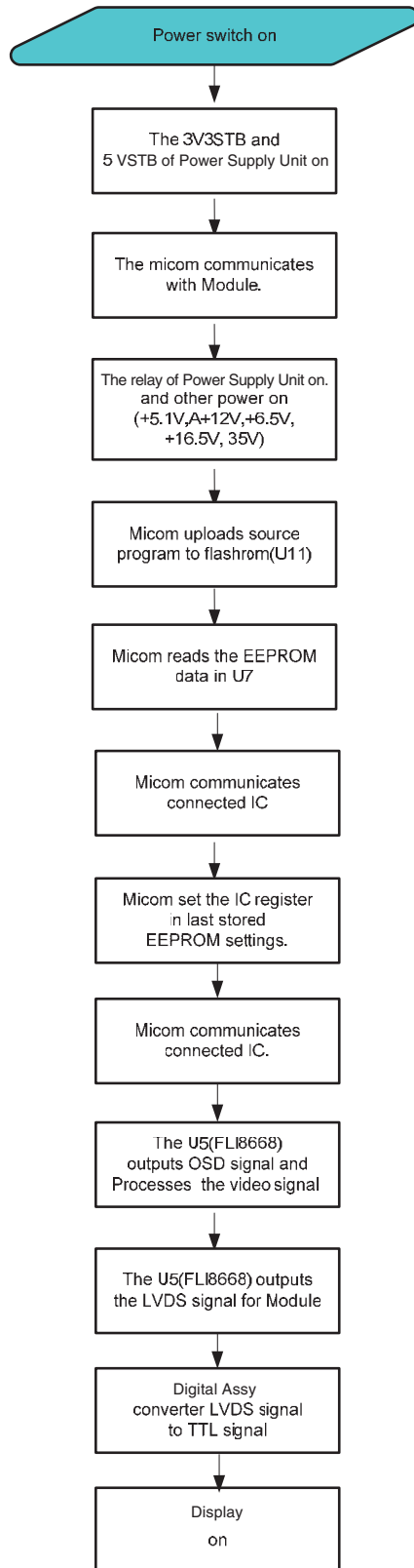
When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the flag setting that indicating that adjustment of the panel unit has been completed Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM	This takes at least 350 ms.
[UAJ]		To make the flag setting that indicating that adjustment of the main unit has not been completed Writing F0 to the 4 k byte ROM	
[CBU]		To make the flag setting that indicating that backup data have not been copied Writing F0 to the 2 k byte ROM	The backup ROM is initialized.
[BCP]		To copy Digital backup data to EEPROM Copying backup data	

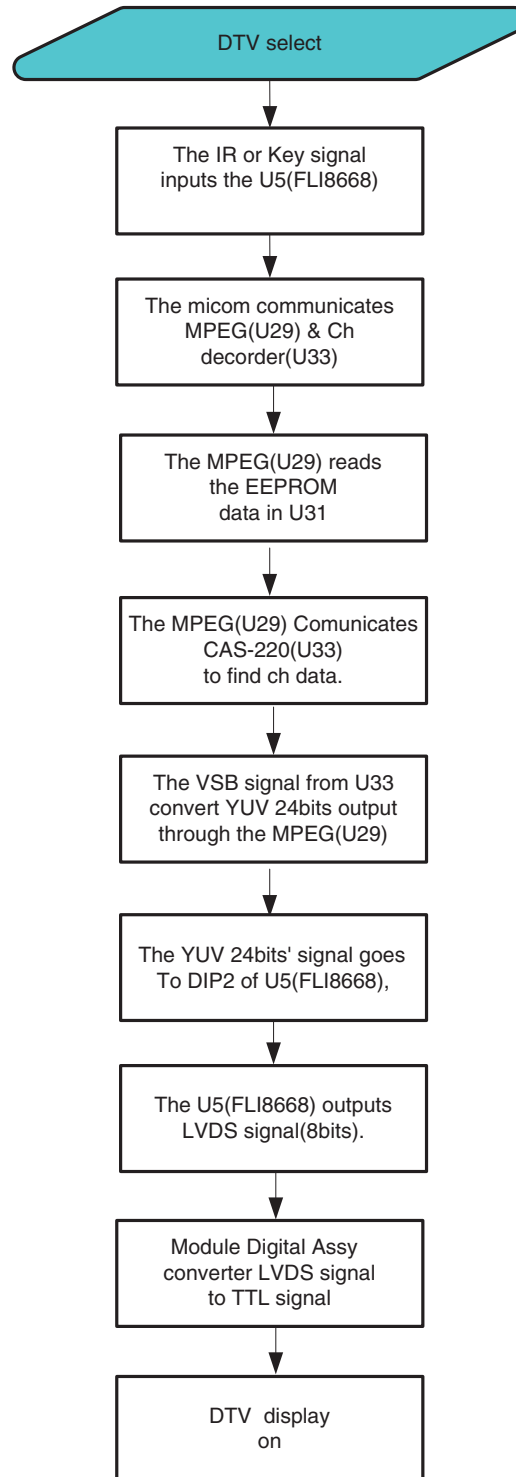
10. GENERAL INFORMATION

10.1 OPERATION SEQUENCE

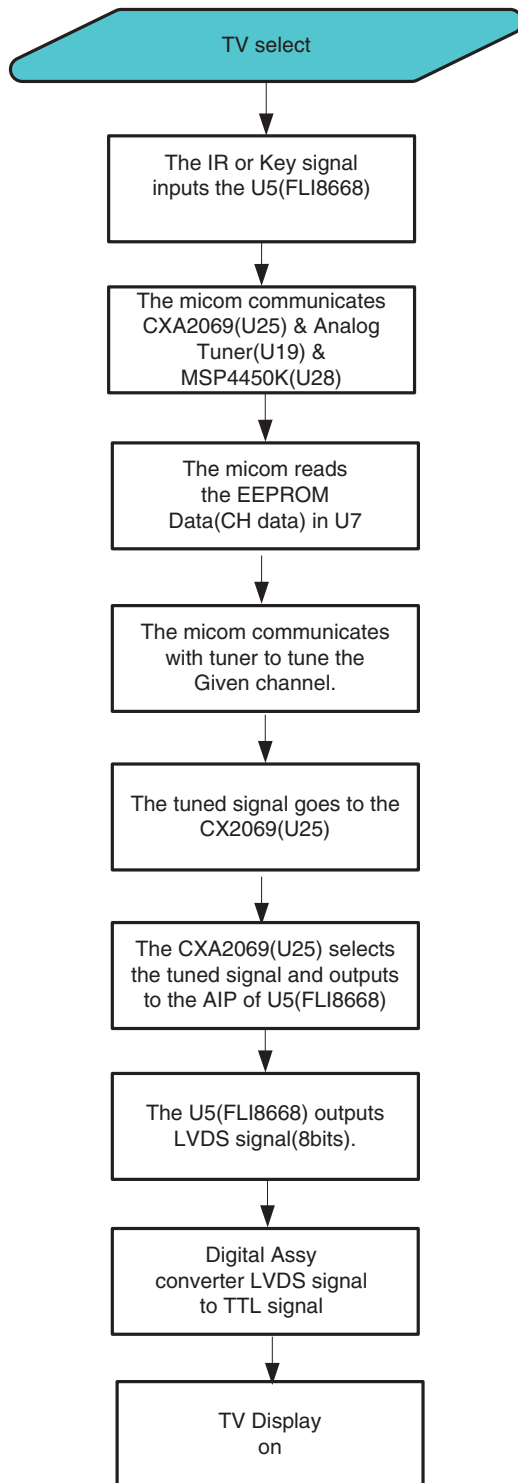
1) Power ON → Display On



2) DTV Mode Detection → DTV Display

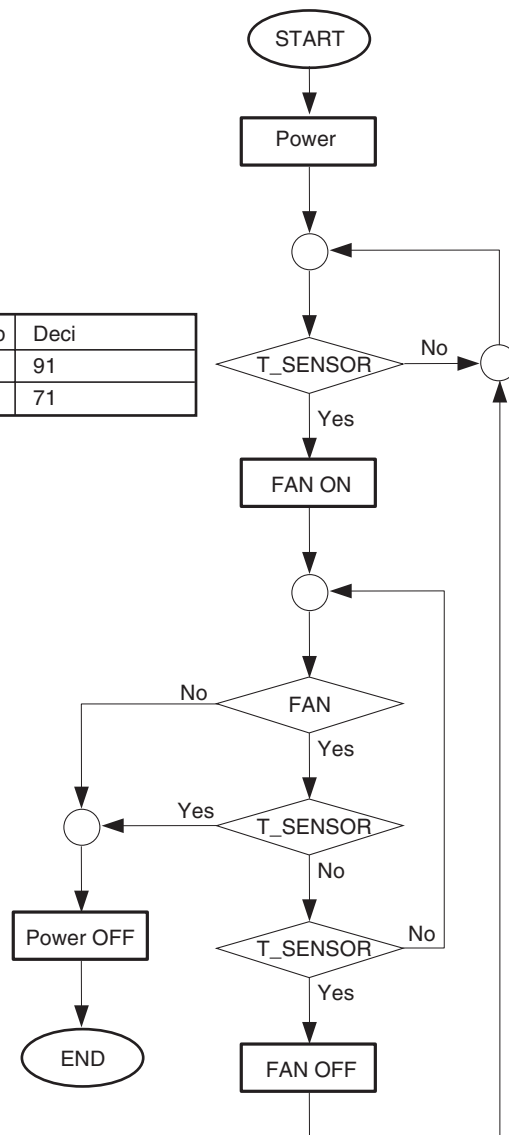


3) DTV Mode Detection → DTV Display

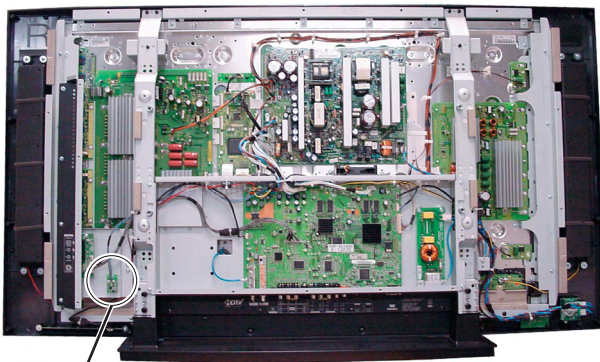


A 4) Specification about the thermal protection

	T_SENSOR	Ambient Temp	Deci
FAN ON	43 degree	35 degree	91
FAN OFF	33 degree	25 degree	71







• Temperature sensor position



T_SENSOR
(Fan)

10.2 LED INFORMATION

■ Diagnosis of shutdown power down indicated by LEDs on INTERFACE Assy

No.	State		LED Pattern	
1	Standby (Power management)	Red lights	Green	
			Red	
2	• • • •			
3	Power ON	Green lights	Green	
			Red	
4	Wait for micro-computer rewriting		Green	
			Red	
5	Shutdown	Green n times (0.5+2.5 sec)	Green	
			Red	
6	Power down	Red n times (0.5+2.5sec)	Green	
			Red	

10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

Function: It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (large signal system) in order to avoid a power down.

Application:

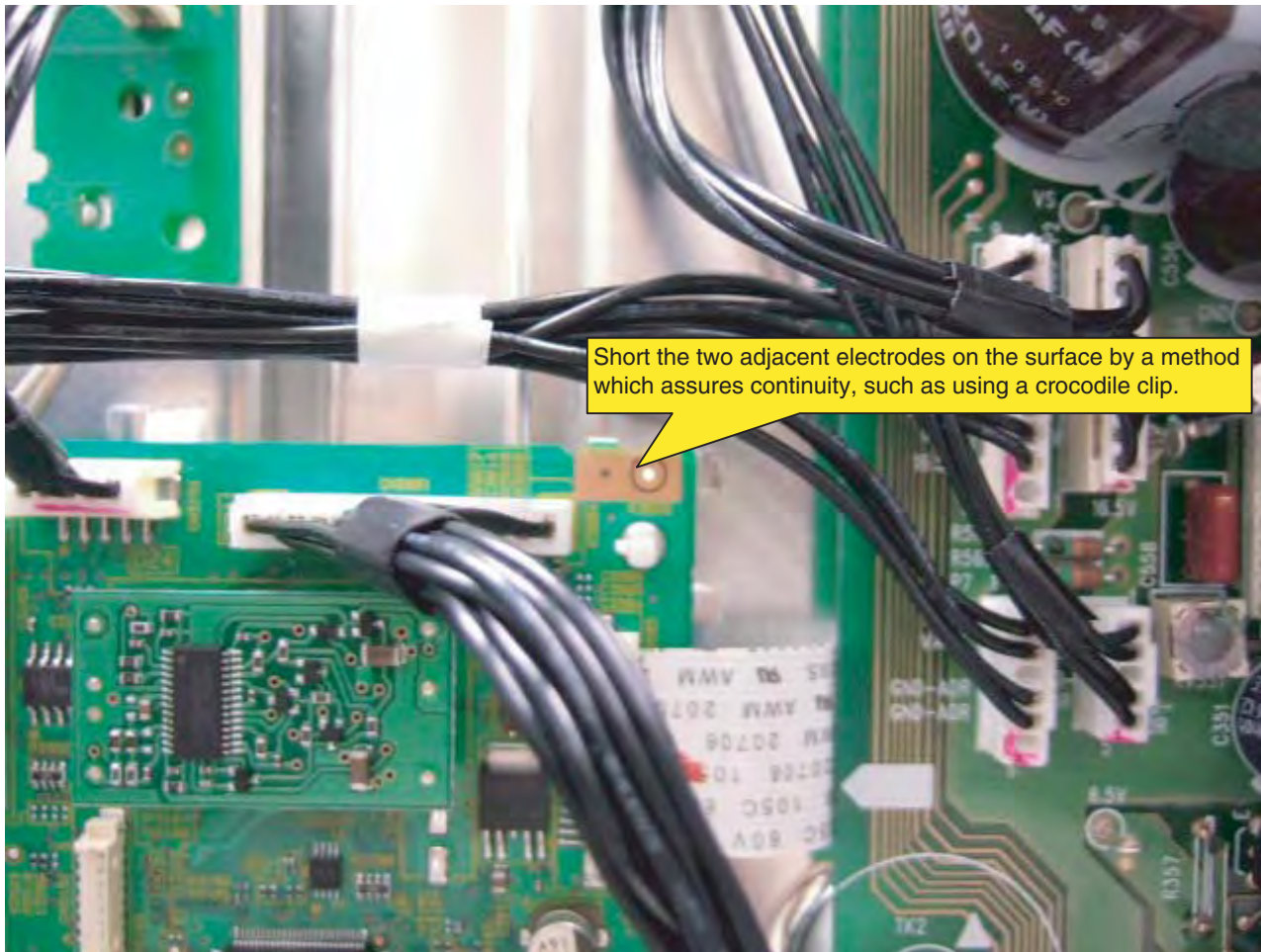
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the large signal system power supply or with the small signal system power supply.

Method:

1. Make shorting between the specified location (refer to the illustration below) of the PCB surface of the DIGITAL ASSY and the nearby pattern.
2. Execute [DRV S00] by RS232C command. ([DRV S01] for release)

Supplemental explanation:

- When the large signal system power supply is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the large signal system power supply, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS232C command control, [DRVS01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRVS00/S01] is effective even during standby. When the main power is turned OFF, however, [DRVS01] (release) will be effective.



11. SPECIFICATION

11.1 SPECIFICATION

Specifications

Item	50" Plasma Display, Model: PDP-5016HD	42" Plasma Display, Model: PDP-4216HD
Number of Pixels	1 365 x 768 pixels	1 024 x 768 pixels
Power Requirement	120 V AC, 60 Hz, 363 W (max) (1.0 W Standby)	120 V AC, 60 Hz, 295 W (max) (1.0 W Standby)
Dimensions (with stand)	1 260 (W)mm x 870 (H)mm x 308 (D)mm (49 5/8 (W)inches x 34 1/4 (H)inches x 12 1/8 (D)inches)	1 235 (W)mm x 699 (H)mm x 252 (D)mm (48 5/8 (W)inches x 27 1/2 (H)inches x 10 (D)inches)
Weight (with stand)	46.0 kg (101.2 lbs)	38.5 kg (84.7 lbs)
Audio Amplifier	10 W +10 W (1 kHz, 1 %)	
Surround System	SRS TruSurroundXT	
Reception System (Digital) Circuit type Tuner VHF/UHF CATV Audio format	ATSC Digital TV system 8VSB & QAM demodulation VHF 2 –13 ch, UHF 14 –69 ch 1-125 ch Dolby Digital	
Reception System (Analog) Tuning System Tuner VHF/UHF CATV Audio multiplex	American TV standard NTSC system FS VHF 2 –13 ch, UHF 14 –69 ch 1 –125 ch BTSC system	
Terminals Rear DTV-ANTENNA IN ANTENNA IN VIDEO 1 VIDEO 2 COMPONENT 1 COMPONENT 2 HDMI1 HDMI2 MONITOR OUT DIGITAL OUT RS-232C Side VIDEO 3	75 Ω UNBAL, F Type for DTV/CATV in 75 Ω UNBAL, F Type for VHF/UHF/CATV in S-VIDEO in, VIDEO in, AUDIO in S-VIDEO in, VIDEO in, AUDIO in COMPONENT VIDEO in, AUDIO in COMPONENT VIDEO in, AUDIO in HDMI in, AUDIO in HDMI in VIDEO out, AUDIO out OPTICAL out Service only S-VIDEO in, VIDEO in, AUDIO in	
OSD	English/French/Spanish	

1234

11.2 ACCESSORY



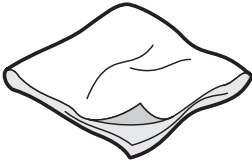
Power cord
(D1300-0390)



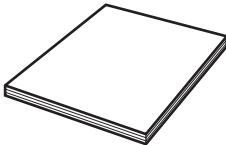
Remote control unit
(01400-0850)



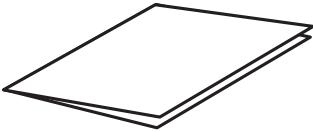
AAA size battery x2
(Alkaline battery)



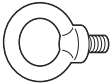
Cleaning cloth
(AED1285)



Operating Instructions



Warranty card

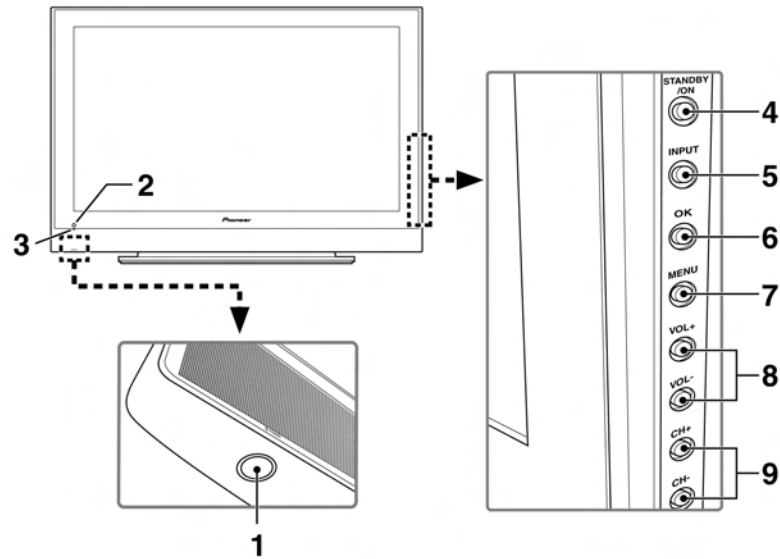


Hook x2

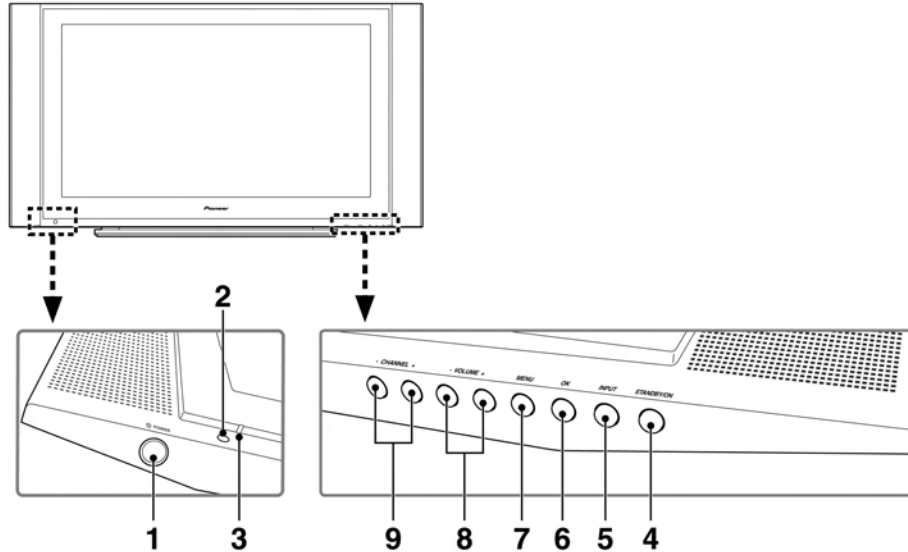
Part Names

• Front panel

Front view (PDP-5016HD)



Front view (PDP-4216HD)



- 1 ① **POWER** button
- 2 Remote control sensor
- 3 **POWER** indicator
- 4 **STANDBY/ON** button
- 5 **INPUT** button

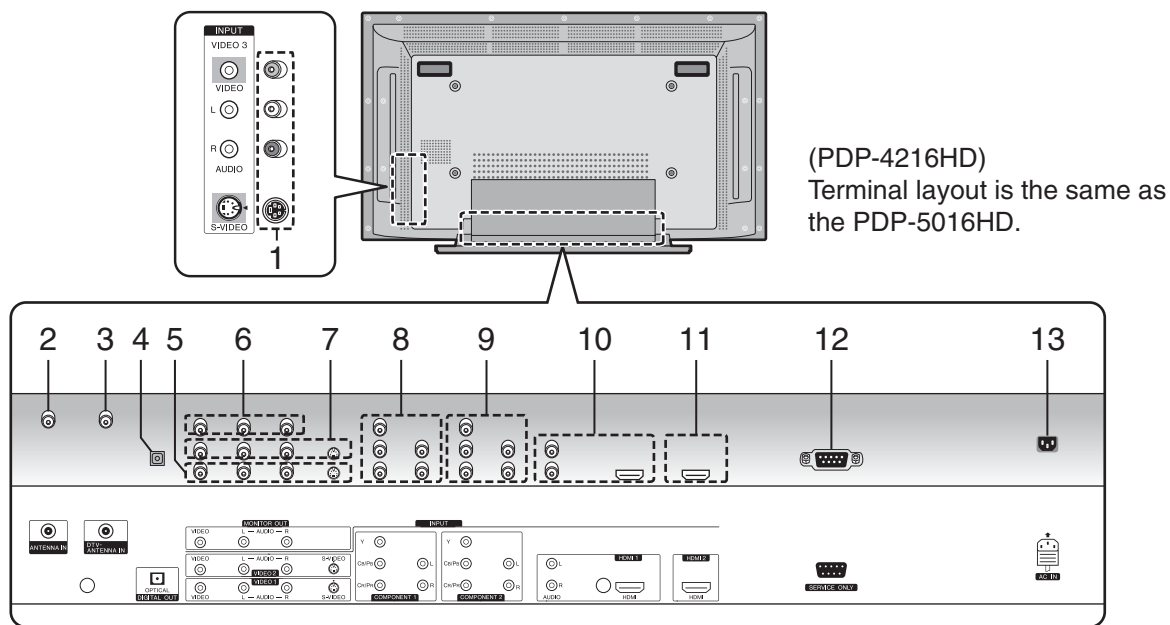
- 6 **OK** button
- 7 **MENU** button
- 8 **VOLUME** -/+ buttons (LEFT/RIGHT buttons*)
- 9 **CHANNEL** -/+ buttons (DOWN/UP buttons*)

The buttons with an asterisk (*) are used from the menu screen.

A

Part Names

• Rear view

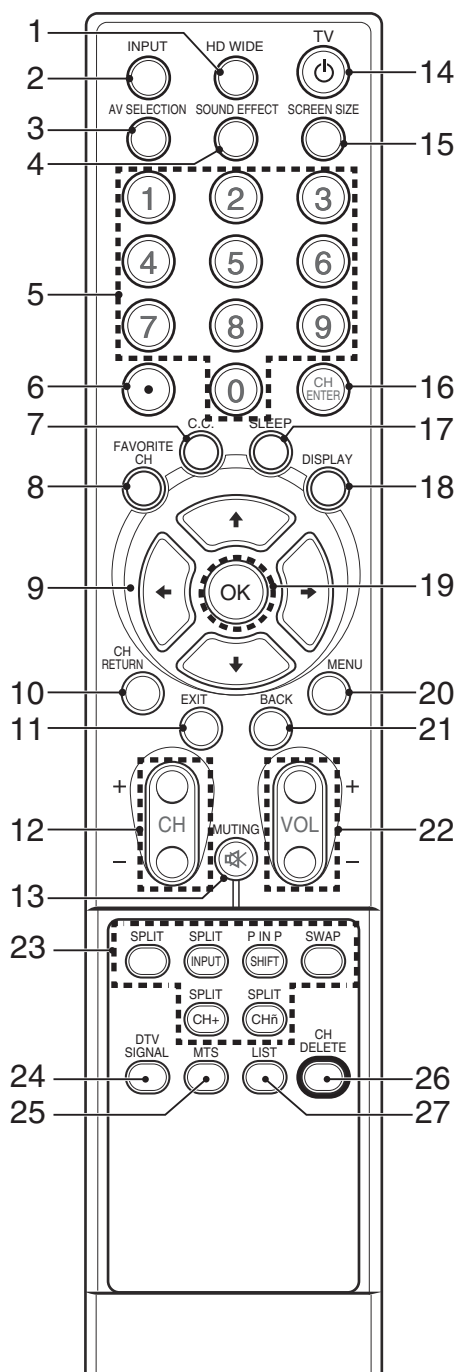


The terminals face downwards.

- 1 VIDEO 3 terminals (AUDIO/VIDEO/S-VIDEO)
- 2 ANTENNA IN terminal
- 3 DTV-ANTENNA IN terminal
- 4 DIGITAL OUT terminal (OPTICAL)
- 5 VIDEO 1 terminals (AUDIO/VIDEO/S-VIDEO)
- 6 MONITOR OUT terminals (AUDIO/VIDEO)
- 7 VIDEO 2 terminals (AUDIO/VIDEO/S-VIDEO)
- 8 COMPONENT 1 terminals (COMPONENT VIDEO: Y, CB/PB, CR/PR, AUDIO)
- 9 COMPONENT 2 terminals (COMPONENT VIDEO: Y, CB/PB, CR/PR, AUDIO)
- 10 HDMI 1 terminals (AUDIO/HDMI)
- 11 HDMI 2 terminal
- 12 RS-232C terminal (service only)
- 13 AC IN terminal

Part Names

• Remote control unit



1 HD WIDE: Adjust the screen size to fit the 16:9 pictures. Available for HD signals in DTV mode.

2 INPUT: Displays all available input sources.

Press the ↑ or ↓ button to select the required input source.

3 AV SELECTION: Selects the picture mode (Standard, Dynamic, Movie, Game or User).

4 SOUND EFFECT: Selects the sound effect (Flat, Speech, Movie, Music or User).

5 0-9: Select the channel.

6 - (dot): Selects the subchannel of DTV.

7 C.C.: Display captions while in the closed caption source.

8 FAVORITE CH: Selects the favorite channel.

CH. While watching, you can toggle the set channels by pressing the button.

9 ↑ / ↓ / ← / → : Controls the cursor on the menu screen.

10 CH RETURN : Returns to the previous channel.

11 EXIT: Exits from any display.

12 CH + / - : Changes the channel.

13 MUTE: Mutes the sound.

14 TV : Turns on the power to the Plasma Display System or places it into standby mode.

15 SCREEN SIZE: Changes the screen size (Zoom /Cinema /Full/4:3 /Wide).

16 CH ENTER: Executes a channel number.

17 SLEEP: Sets the sleep timer.

18 DISPLAY: Displays the channel information.

19 OK: Executes a command.

20 MENU: Displays the menu screen.

21 BACK: Returns to the previous menu screen.

22 VOL +/-: Sets the volume.

23 SPLIT Function Buttons

SPLIT: Switches the screen mode (Off, PIP, TWIN1 or TWIN2).

SPLIT INPUT: Selects an input source for the sub picture.

P IN P SHIFT: Moves the location of the sub picture when in the PIP mode.

SWAP: Switches between the two screens when in the TWIN or PIP mode.

SPLIT CH +, SPLIT CH -: Changes the channel of the sub picture.

24 DTV SIGNAL: Displays the signal strength in DTV.

25 MTS: Selects MTS/SAP or language depend-ing on the program being watched.

26 CH DELETE: Deletes a channel in Edit Chan-nel List.

27 LIST: Displays the channel list. Press the ↑ or ↓ button to select the required channel.

12. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

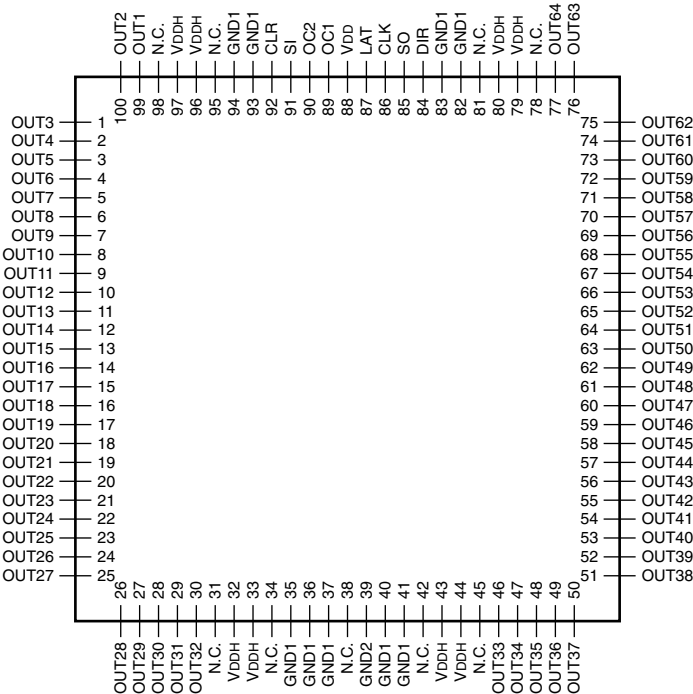
● List of IC

SN755870KPZT, PEE002B-K, ZR39660BGLF, FLI8668-LF BC, MSP4450K, CAS-220/C, CXA2069Q, SII9023
M28W160CT-70N6E, M29W320ET-70N6E, HY5DU281622ETP, 74HCT244, LTC3412EFE, OLX232, K4H561638H-UCB3
LD29150PT/P-PAK, STA323W13TR, M41T81, LM35CZ, BA05CCOFP, KIA7809AF, 24LC256, 24LC16B, 24LC64T-I/SN
74LVC157AD

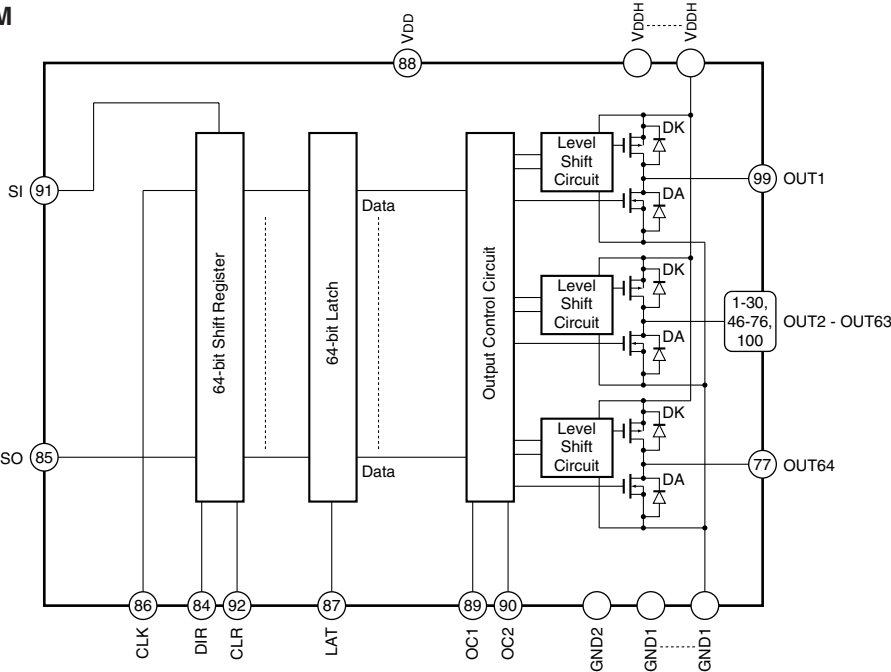
■ SN755870KPZT (42 SCAN A ASSY : IC2801 - IC2806), (50 SCAN A ASSY : IC2801 - IC2806)
(42 SCAN B ASSY : IC2901 - IC2906), (50 SCAN B ASSY : IC2901 - IC2906)

• PLASMA DISPLAY PANEL IC

● PIN LAYOUT (Top View)



● BLOCK DIAGRAM



● PIN FUNNCTION

No.	Pin Name	I/O	Pin Function
1 - 30	OUT3 - OUT32	O	High-voltage push-pull output
31	N.C.	–	Not used
32 - 33	VDDH	–	Power for High-voltage circuit
34	N.C.	–	Not used
35 - 37	GND1	–	GND
38	N.C.	–	Not used
39	GND2	–	GND
40 - 41	GND1	–	GND
42	N.C.	–	Not used
43 - 44	VDDH	–	Power for High-voltage circuit
45	N.C.	–	Not used
46 - 77	OUT33 - OUT64	O	High-voltage push-pull output
78	N.C.	–	Not used
79 - 80	VDDH	–	Power for High-voltage circuit
81	N.C.	–	Not used
82 - 83	GND1	–	GND
84	DIR	I	Setting the shift direction of shift-register L : reverse side shift (SO→SI), H : forward side shift (SI→SO)
85	SO	I/O	Serial data In/Out
86	CLK	I	Serial clock Input Down-side edge trigger
87	LAT	I	LAT data Input L : The data of shiftregister is transferred to ouput latch. H : The ouput data of latch is holded.
88	VDD	–	Power for Logic circuit
89	OC1	I	Output control Output is controlled by truth table right side.
90	OC2	I	
91	SI	I/O	Serial data In/Out
92	CLR	I	All output reset CLR terminal : L → normal operation, CLR terminal : H→ All output "H"
93 - 94	GND1	–	GND
95	N.C.	–	Not used
96 - 97	VDDH	–	Power for High-voltage circuit
98	N.C.	–	Not used
99 - 100	OUT1 - OUT2	O	High-voltage push-pull output

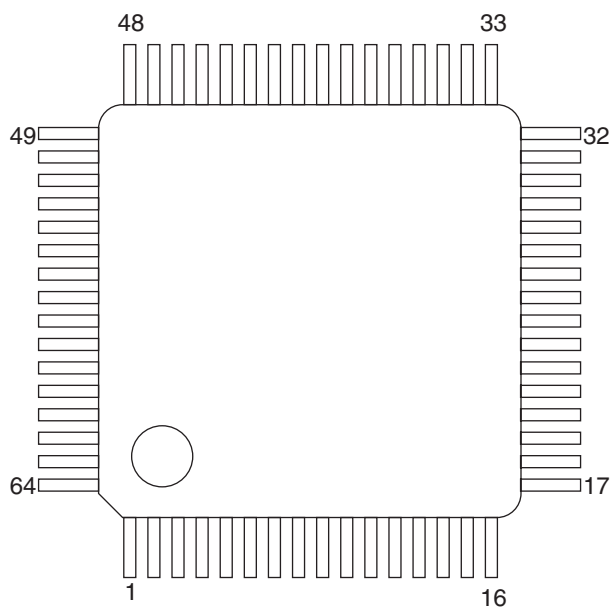
PEE002B-K (42 ADDRESS ASSY:IC1501)

• LVDS Receiver

● PIN FUNCTION

PIN no.	I/O TYPE	SIGNAL
1	LRGND	
2	bb_silcdhsip_7c19a	RAMP1
3	bb_silcdhsip_7c19a	RAPP1
4	bb_silcdhsip_7c19a	RBMP1
5	bb_silcdhsip_7c19a	RBPP1
6	LRVDD	
7	bb_silcdhsip_7c19a	RCMP1
8	bb_silcdhsip_7c19a	RCPP1
9	bb_silcdhsip_7c19a	RCLKMP1
10	bb_silcdhsip_7c19a	RCLKPP1
11	bb_silcdhsip_7c19a	RDMP1
12	bb_silcdhsip_7c19a	RDPP1
13	LRGND	
14	LPGND	
15	LPVDD	
16	SIBTD	TEST0
17	SIBTD	TEST1
18	SIBTD	PHSSEL1
19	SIBTD	PHSSEL0
20	SIBTD	DIV0
21	SIBTD	DIV1
22	GND	
23	VDD	
24	VDD	
25	SOT4L	R_E
26	SOT4L	G_E
27	SOT4L	B_E
28	GND	
29	SOT4L	ADRSV3
30	SOT4L	R_D
31	SOT4L	G_D
32	SOT4L	B_D
33	VDD	
34	SOT8FL	LE
35	GND	
36	SOT12FL	CLKOUT
37	VDD	
38	SOT4L	ADR_B
39	SOT4L	ADR_D
40	SOT4L	ADR_U

PIN no.	I/O TYPE	SIGNAL
41	SOT4L	ADR_G
42	SOT4L	LBLK
43	SOT4L	HBLK
44	GND	
45	SOT4L	HZ
46	SOT4L	R_C
47	SOT4L	G_C
48	SOT4L	B_C
49	VDD	
50	SOT4L	ADRSV2
51	SOT4L	R_B
52	GND	
53	SOT4L	G_B
54	SOT4L	B_B
55	GND	
56	VDD	
57	SOT4L	ADRSV1
58	VDD	
59	SOT4L	R_A
60	SOT4L	G_A
61	GND	
62	SOT4L	B_A
63	SOT4L	ADRSV0
64	SISTD	OE

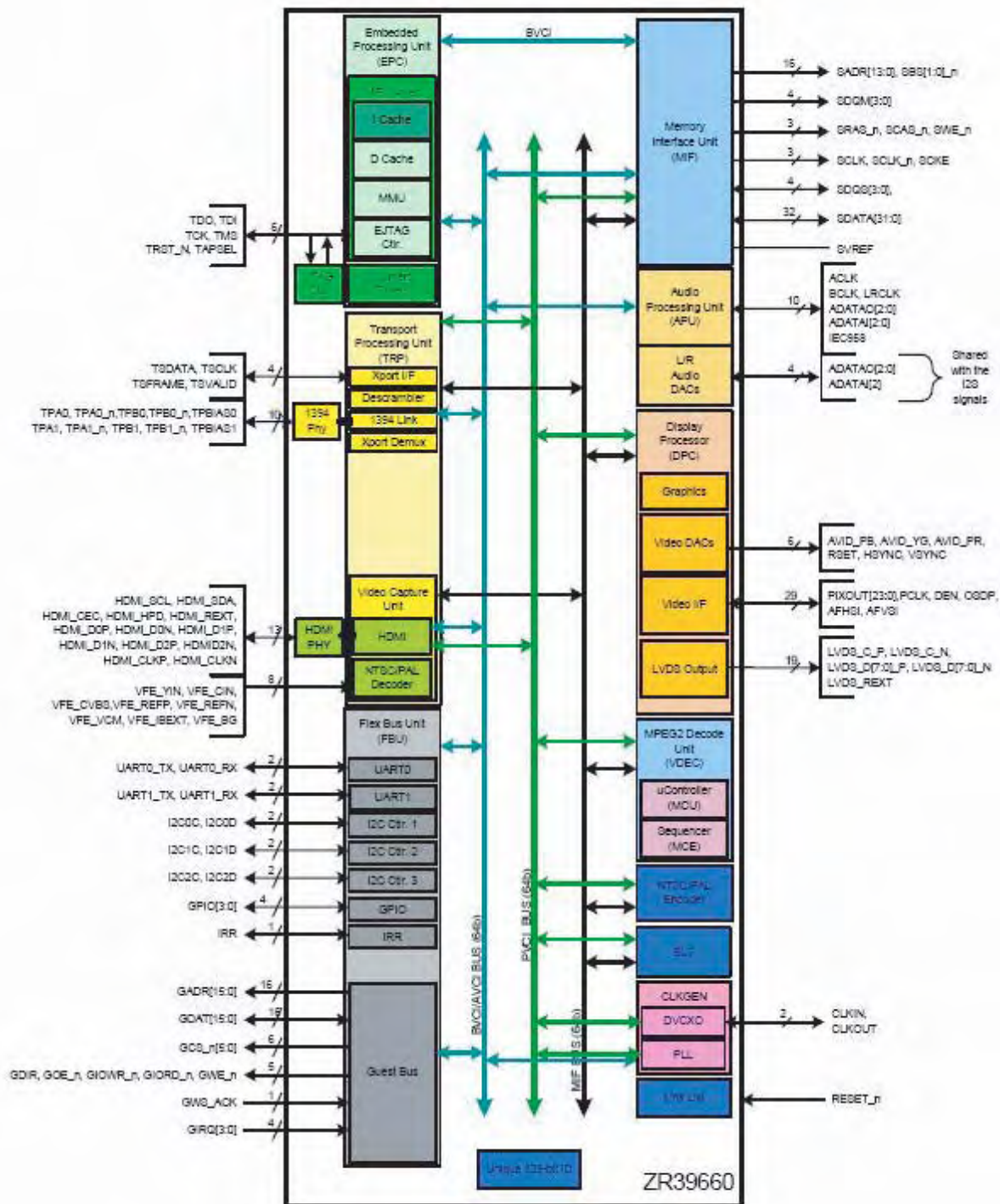


● Pin Function

PIN NO	Pin name	Signal name	Function	I/O	Active	Initial setting at power ON
1	NC					I (fixed to input)
2	P3_5/SCL/SSCK	SCL(I2C)	I2C clock	I		
3	P3_3/SSI					
4	P3_4/SDA/SCS	SDA(I2C)	I2C data	I/O		
5	MODE					
6	P4_3/XCIN					
7	P4_4/XCOUT					
8	RESET	RESET				
9	P4_7/XOUT	XOUT	Output for the main clock	O		
10	VSS/AVSS	VSS				
11	P4_6/XIN	XIN	Input for the main clock	I		
12	VCC/AVCC	VCC				
13	P2_7/TRDIOD1	ID7	I2C device ID setting 7	I		
14	P2_6/TRDIOC1	ID6	I2C device ID setting 6	I		
15	P2_5/TRDIOB1	ID5	I2C device ID setting 5	I		
16	P2_4/TRDIOA1	ID4	I2C device ID setting 4	I		
17	P2_3/TRDIOD0	ID3	I2C device ID setting 3	I		
18	P2_2/TRDIOC0	ID2	I2C device ID setting 2	I		
19	P2_1/TRDIOB0	ID1	I2C device ID setting 1	I		
20	P2_0/TRDIOA0					
21	P1_7/TRAIO/INT1					
22	P1_6/CLK0	Md_REQ_IN	Input of REQ signal from Md	I		
23	P1_5/RXD0	RXD0	Receiving of UART communication data with Md microcomputer	I		
24	P1_4/TXD0	TXD0	Transmission of UART communication data with Md microcomputer	O		
25	P1_3/KI3/AN11	STATUS	Md error output	O	L	
26	NC					
27	P4_5/INT0	REQ_OUT	REQ signal outout	O	H	
28	P6_6/INT2/TXD1	TXD1	Transmission of UART communication data with the PC	O		
29	P6_7/INT3/RXD1	RXD1	Receiving of UART communication data with the PC	I		
30	P1_2/KI2/AN10	POWER	Power ON/OFF switching	I		
31	P1_1/KI1/AN9	MAX_PLS11	4L/2L switching 1	I		
32	P1_0/KI0/AN8	MAX_PLS10	4L/2L switching 0	I		
33	P3_1/TRBO	MASK1	Mask pattern switching 1	I		
34	P3_0/TRAO	MASK0	Mask pattern switching 0	I		
35	P6_5/CLK1	DITHER	Dither switching	I		
36	P6_4					
37	P6_3					
38	P0_7/AN0	AC_OFF	AC input detection	+	H	
39	NC					
40	NC					
41	P0_6/AN1	MAX_PLS21	Peak brightness switching 1	I		
42	P0_5/AN2	MAX_PLS20	Peak brightness switching 0	I		
43	P0_4/AN3	RS_SEL2	Data conversion switching 2	I		
44	P4_2/VREF	VCC		I		
45	P6_0/TREO					
46	P6_2					
47	P6_1	ZAC	Aging mode switching	I		
48	P0_3/AN4	RS_SEL1	Data conversion switching 1	I		
49	P0_2/AN5	RS_SEL0	Data conversion switching 0	I		
50	P0_1/AN6	MSEL	GPIO/I2C conversion switching	I		
51	P0_0/AN7	CHSEL	Operational mode setting	I		
52	P3_7/SSO					

ZR39660 (MAIN ASSY: U29A- U29I)

Block Diagram



FLI8668-LF BC (MAIN ASSY: U5A- U5E)

Pin Arrangement

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	N/C	MSTR1_SDA	MSTR1_SCL	FSDATA1	FSDATA3	FSDQM0	FSDATA5	FSDATA7	FSDATA9	FSDATA11	FSDQM1	FSDATA13	FSDATA15	V _L
B	BDATA0	OCM_UDO_1	OCM_UDI_1	FSDATA0	FSDATA2	FSDQS0	FSDATA4	FSDATA6	FSDATA8	FSDATA10	FSDQS1	FSDATA12	FSDATA14	V _L
C	BDATA3	BDATA2	BDATA1	FSCKE	FSCLN	FSADDR8	FSADDR7	FSADDR6	FSVREF	FSADDR5	FSADDR12	FSADDR9	FSADDR4	F
D	BDATA6	BDATA5	BDATA4	DDR_2.5	FSCLP	DDR_2.5	DDR_2.5	DDR_2.5	FSVREFVSS	DDR_2.5	DDR_2.5	DDR_2.5	DDR_2.5	D
E	BDATA9	BDATA8	BDATA7	I/O_3.3										
F	BDATA12	BDATA11	BDATA10	I/O_3.3										
G	BDATA15	BDATA14	BDATA13	I/O_3.3										
H	BDATA18	BDATA17	BDATA16	I/O_3.3										
J	BDATA21	BDATA20	BDATA19	I/O_3.3										
K	BHREF_DE	BDATA23	BDATA22	I/O_3.3						CORE_1.8	CORE_1.8	D_GND	D_GND	D
L	IPCLK3	BVS	BHS	I/O_3.3						D_GND	CORE_1.8	D_GND	D_GND	D
M	DIP_CLEAN_HS_OUT	DIP_EXT_CLAMP	DIP_EXT_COAST	IPCLK2						D_GND	D_GND	D_GND	D_GND	D
N	IPCLK0	DIP_RAW_HS_CS	DIP_A0DD	DIP_B0DD						D_GND	D_GND	D_GND	D_GND	D
P	ADATA2	ADATA1	ADATA0	IPCLK1						D_GND	D_GND	D_GND	D_GND	D
R	ADATA6	ADATA5	ADATA4	ADATA3						D_GND	D_GND	D_GND	D_GND	D
T	ADATA10	ADATA9	ADATA8	ADATA7						D_GND	CORE_1.8	D_GND	D_GND	D
U	ADATA14	ADATA13	ADATA12	ADATA11						CORE_1.8	CORE_1.8	D_GND	D_GND	D
V	ADATA18	ADATA17	ADATA16	ADATA15										
W	ADATA22	ADATA21	ADATA20	ADATA19										
Y	AVS	AHS	AHREF_DE	ADATA23										
AA	N/C	DGND_ADC	DGND_ADC	DGND_ADC										
AB	A1P	SV1P	AGND_ADC	ADC_1.8										
AC	C1P	B1P	AGND_ADC	ADC_1.8	ADC_1.8	AGND_ADC	VOUT2	AGND_ADC	LBADC_33	LBADC_IN4	LBADC_GND	AVS_IN_DATA	EXT_OSD_HS	
AD	AN	AGND_ADC	ADC1_3.3	ADC1_3.3	ADC1_3.3	ADC2_3.3	ADC2_3.3	AGND_ADC	RESETn	LBADC_IN3	LBADC_RETURN	AVS_IN_WORD_SEL	EXT_OSD_VS	A
AE	SV2P	B2P	AGND_ADC	SV3P	B3P	AGND_ADC	SV4P	BN2	AGND_ADC	LBADC_IN2	LBADC_IN6	AIP_RAW_VS	AVS_OUT_SCL	A
AF	A2P	C2P	BN	A3P	C3P	CN	AN2	CN2	SVN	LBADC_IN1	LBADC_IN5	AIP_RAW_HS_CS	EXT_OSD_CK	S
	1	2	3	4	5	6	7	8	9	10	11	12	13	14

● Pin Arrangement

A

B

C

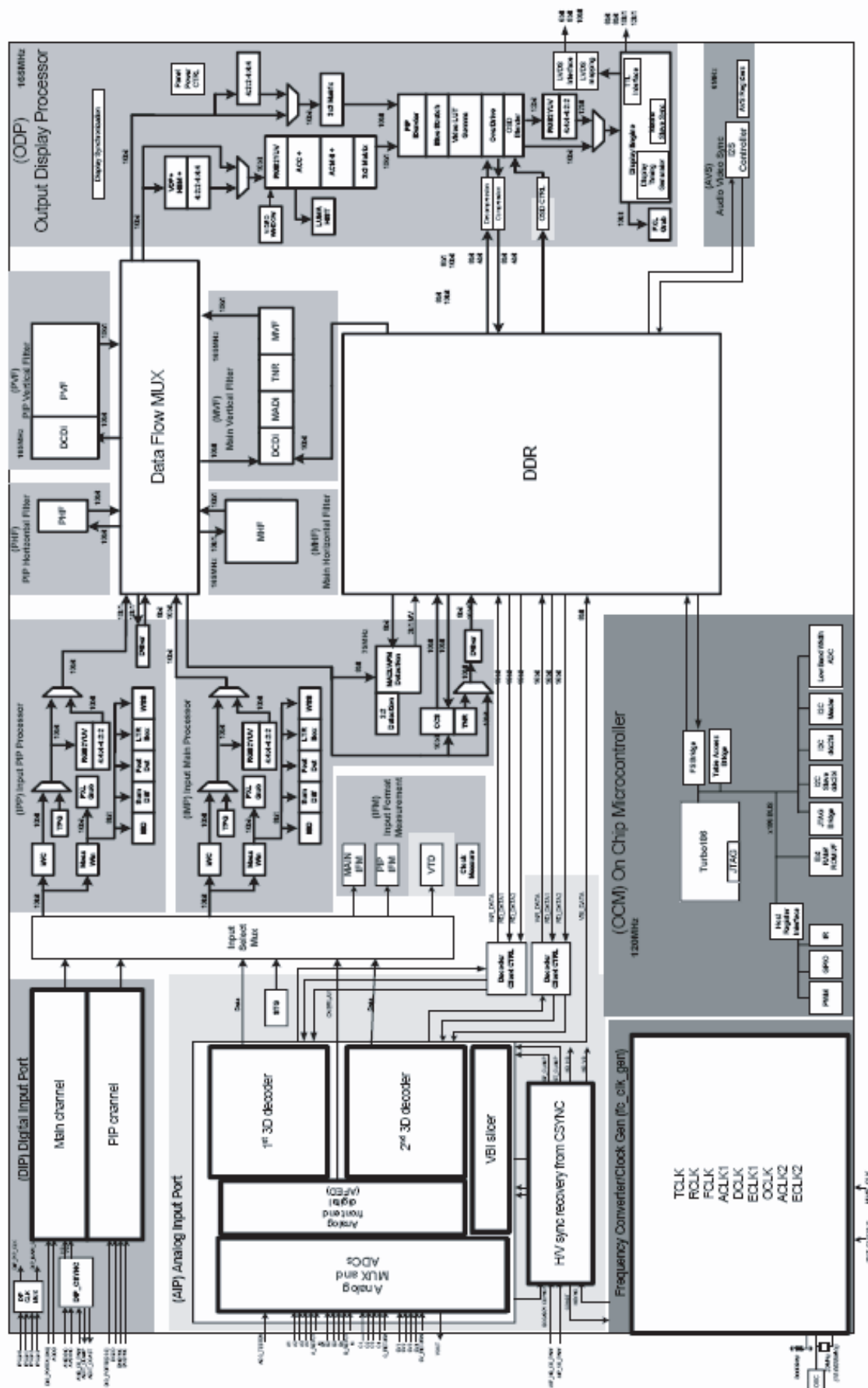
D

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F

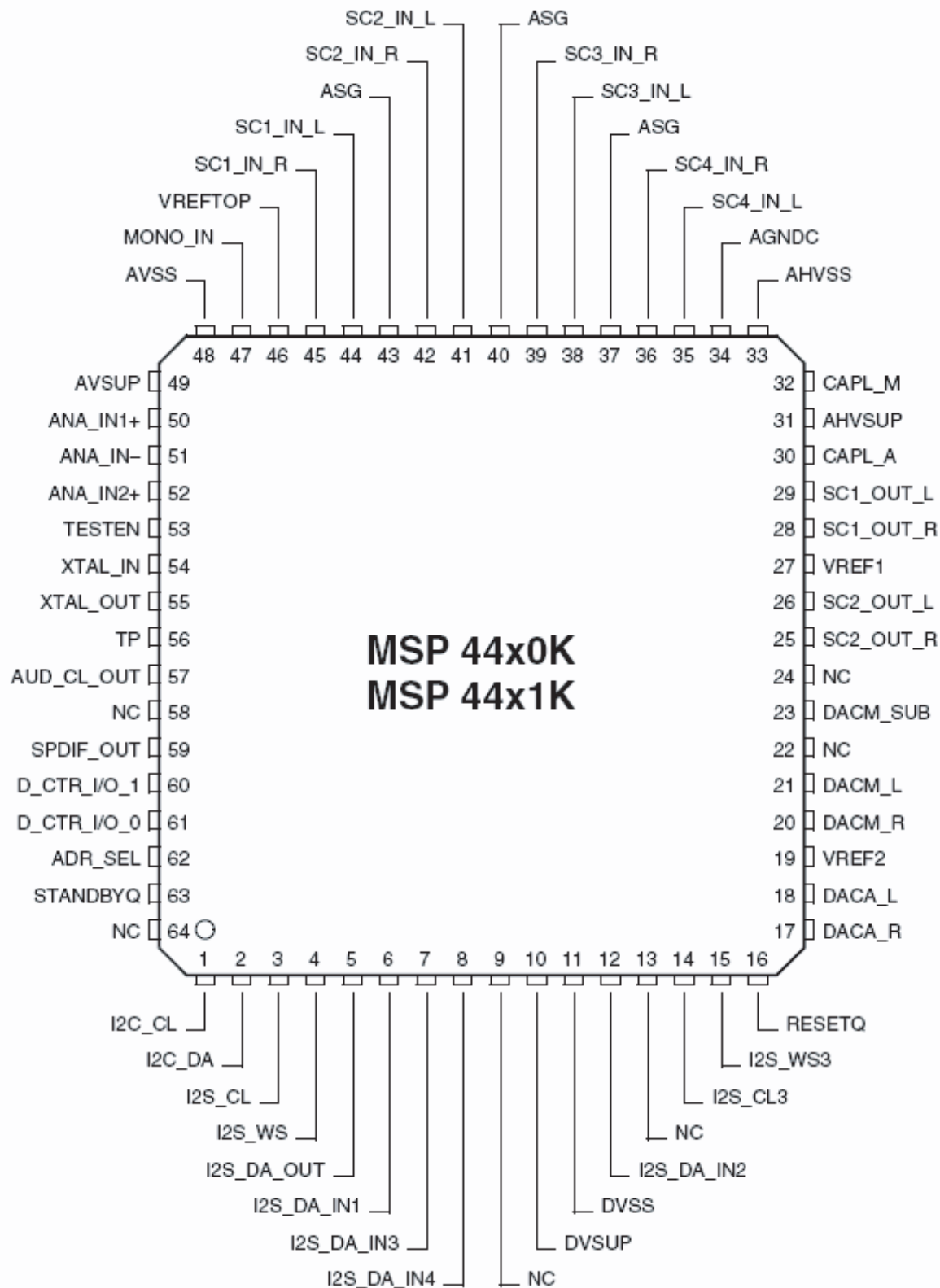
	14	15	16	17	18	19	20	21	22	23	24	25	26	
	VDDA18_DL L	FSDATA17	FSDATA19	FSDQS2	FSDATA21	FSDATA23	FSDATA25	FSDATA27	FSDQS3	FSDATA29	FSDATA31	RPLL_A GND	RPLL_A GND	A
	VSSA18_DL L	FSDATA16	FSDATA18	FSDQM2	FSDATA20	FSDATA22	FSDATA24	FSDATA26	FSDQM3	FSDATA28	FSDATA30	RPLL_D GND	XTAL	B
	FSADDR11	FSADDR3	FSADDR2	FSADDR1	FSADOR0	FSVREF	FSBKSEL1	FSBKSEL0	FSCS1	FSWE	FSRAS	RPLL_18	TCLK	C
	DDR_2.5	DDR_2.5	FSADDR10	DDR_2.5	DDR_2.5	FSVREFVSS	DDR_2.5	FSCS0	DDR_2.5	DDR_2.5	FSCAS	N/C	RPLL_33	D
										CH0P_LV_O / PD22 (ERED6)	CH0N_LV_O / PD23 (ERED7)	LVDS_3.3 GND	LVDS_3.3	E
										CH2P_LV_O / PD18 (ERED2)	CH2N_LV_O / PD19 (ERED3)	CH1P_LV_O / PD20 (ERED4)	CH1N_LV_O / PD21 (ERED5)	F
										CH3P_LV_O / PD14 (EGRN6)	CH3N_LV_O / PD15 (EGRN7)	CLKP_LV_O / PD16 (ERED0)	CLKN_LV_O / PD17 (ERED1)	G
										LVDS_PLL GND	LVDS_PLL 3.3	LVDS_3.3 GND	LVDS_3.3	H
										CH4P_LV_O / PD12 (EGRN4)	CH4N_LV_O / PD13 (EGRN5)	LVDS_3.3 GND	LVDS_3.3	J
	D_GND	D_GND	CORE_1.8	CORE_1.8						CH1P_LV_E / PD8 (EGRN0)	CH1N_LV_E / PD9 (EGRN1)	CH0P_LV_E / PD10 (EGRN2)	CH0N_LV_E / PD11 (EGRN3)	K
	D_GND	D_GND	CORE_1.8	D_GND						CLKP_LV_E / PD4 (EBLU4)	CLKN_LV_E / PD5 (EBLU5)	CH2P_LV_E / PD6 (EBLU6)	CH2N_LV_E / PD7 (EBLU7)	L
	D_GND	D_GND	D_GND	D_GND						IO_3.3	LVDS_3.3	LVDS_3.3	LVDS_3.3	M
	D_GND	D_GND	D_GND	D_GND						CH4P_LV_E PD0(EBLU0)	CH4N_LV_E PD1(EBLU1)	CH3P_LV_E PD2(EBLU2)	CH3N_LV_E PD3(EBLU3)	N
	D_GND	D_GND	D_GND	D_GND						IO_3.3	DCLK	DHS	DEN	P
	D_GND	D_GND	D_GND	D_GND						GPIO_45 / JTAG_BS_T DI	GPIO_46 / JTAG_BS_R ST	GPIO_47 / JTAG_BS_T CK	DVS	R
	D_GND	D_GND	CORE_1.8	CORE_1.8						IO_3.3	GPIO_42 / JTAG_BS_T MS	GPIO_43 / JTAG_BS_T DO	GPIO_44	T
	D_GND	D_GND	CORE_1.8	CORE_1.8						PWM1	PWM2	PPWR	PBIAS	U
										IO_3.3	PWM0	SLAVE_ SDA	SLAVE_ SCL	V
										OCM_INT1	OCM_ TIMER1	OCM_ UDI_0	OCM_ UDO_0	W
										IO_3.3	OCM_INT2	VGA1_ SDA	VGA1_ SCL	Y
										MSTR0_ SDA	MSTR0_ SCL	VGA0_ SDA	VGA0_ SCL	AA
										IO_3.3	IR0	MSTR2_ SDA	MSTR2_ SCL	AB
	IO_3.3	OCMADDR1 8	IO_3.3	OCMADDR1 1	IO_3.3	OCMADDR4	IO_3.3	OCMDATA1 3	IO_3.3	OCMDATA6	OCM_CS2n	OCM_REn	OCM_WEn	AC
	AVS_OUT_ DATA	OCMADDR1 9	OCMADDR1 5	OCMADDR1 2	OCMADDR8	OCMADDR5	OCMADDR1 4	OCMDATA1 0	OCMDATA1 4	OCMDATA7	ROM_CSn	OCM_CS0n	OCM_CS1n	AD
	AVS_OUT_ WORD_SEL	OCMADDR2 0	OCMADDR1 6	OCMADDR1 3	OCMADDR9	OCMADDR6	OCMADDR2 5	OCMDATA1 5	OCMDATA1 1	OCMDATA8	OCMDATA2	OCMDATA1	OCMDATA0	AE
	CAVS_IN_ SCL	OCMADDR2 1	OCMADDR1 7	OCMADDR1 4	OCMADDR1 0	OCMADDR7	OCMADDR3 0	OCMDATA1 2	OCMDATA1 2	OCMDATA9	OCMDATA5	OCMDATA4	OCMDATA3	AF
	14	15	16	17	18	19	20	21	22	23	24	25	26	

● Block Diagram

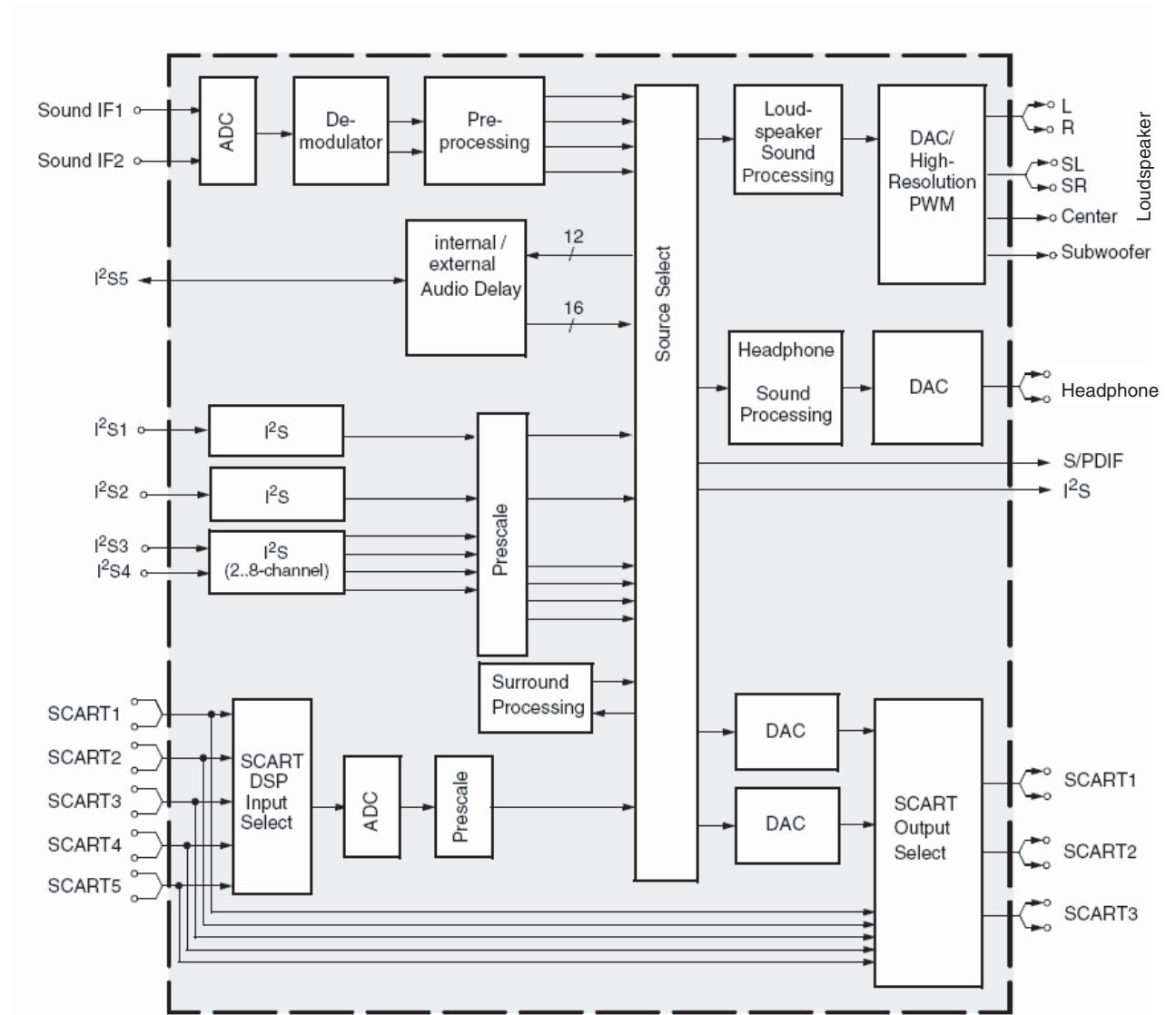


MSP4450K (MAIN ASSY: U28)

Pin Arrangement

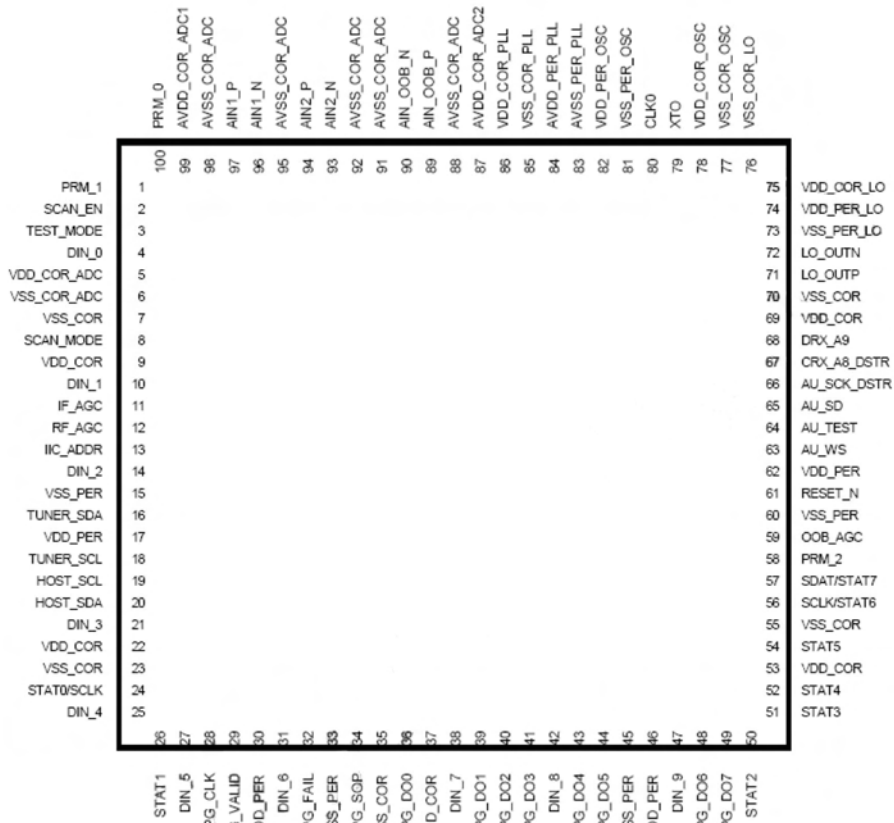


● Block Diagram

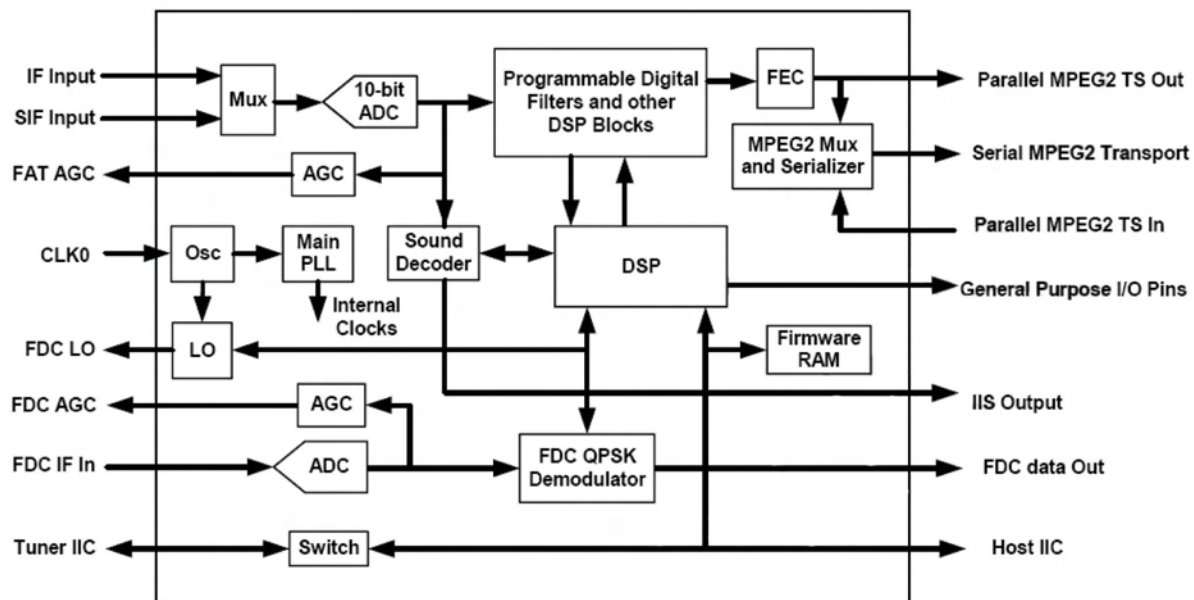


CAS-220/C (MAIN ASSY: U33A)

● Pin Arrangement



● Block Diagram



■ CXA2069Q (MAIN ASSY: U25)

● Pin Arrangement

Description

The CXA2069Q is a 7-input, 3-output audio/video switch featuring I²C bus compatibility for TVs. This IC has input pins that are compatible with S2 protocol.

Features

- 4 inputs that are compatible with S2 protocol
- Serial control with I²C bus
- 7 inputs, 3 outputs
- The desired inputs can be selected independently for each of the 3 outputs
- Wide band video amplifier (20 MHz, -3 dB)
- Y/C MIX circuit
- Slave address can be changed (90H/92H)
- Audio muting from external pin
- High impedance maintained by I²C bus lines (SDA, SCL) even when power is OFF
- Wide audio dynamic range (3 Vrms typ.)

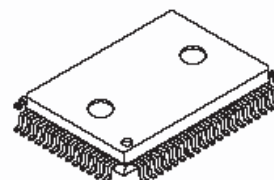
Applications

Audio/video switch featuring I²C bus compatibility for TVs

Structure

Bipolar silicon monolithic IC

64 pin QFP (Plastic)

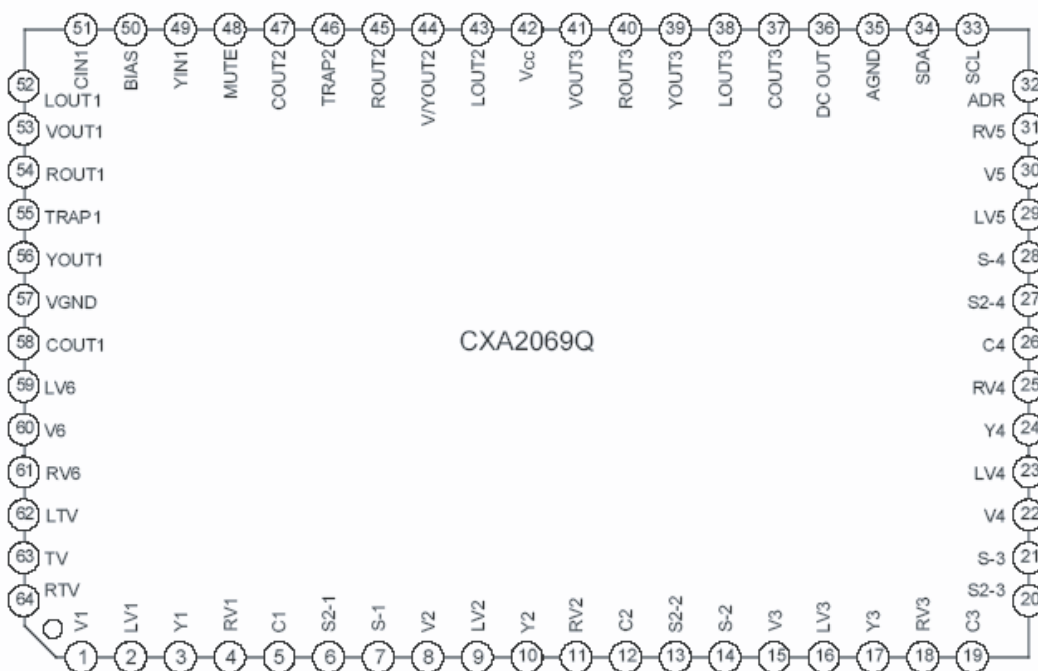


Absolute Maximum Ratings (Ta=25 °C)

• Supply voltage	V _{CC}	12	V
• Operating temperature	T _{opr}	-20 to +75	°C
• Storage temperature	T _{stg}	-65 to +150	°C
• Allowable power dissipation	P _D	1300	mW

Operating Conditions

Supply voltage	9±0.5	V
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● Block Diagram

A

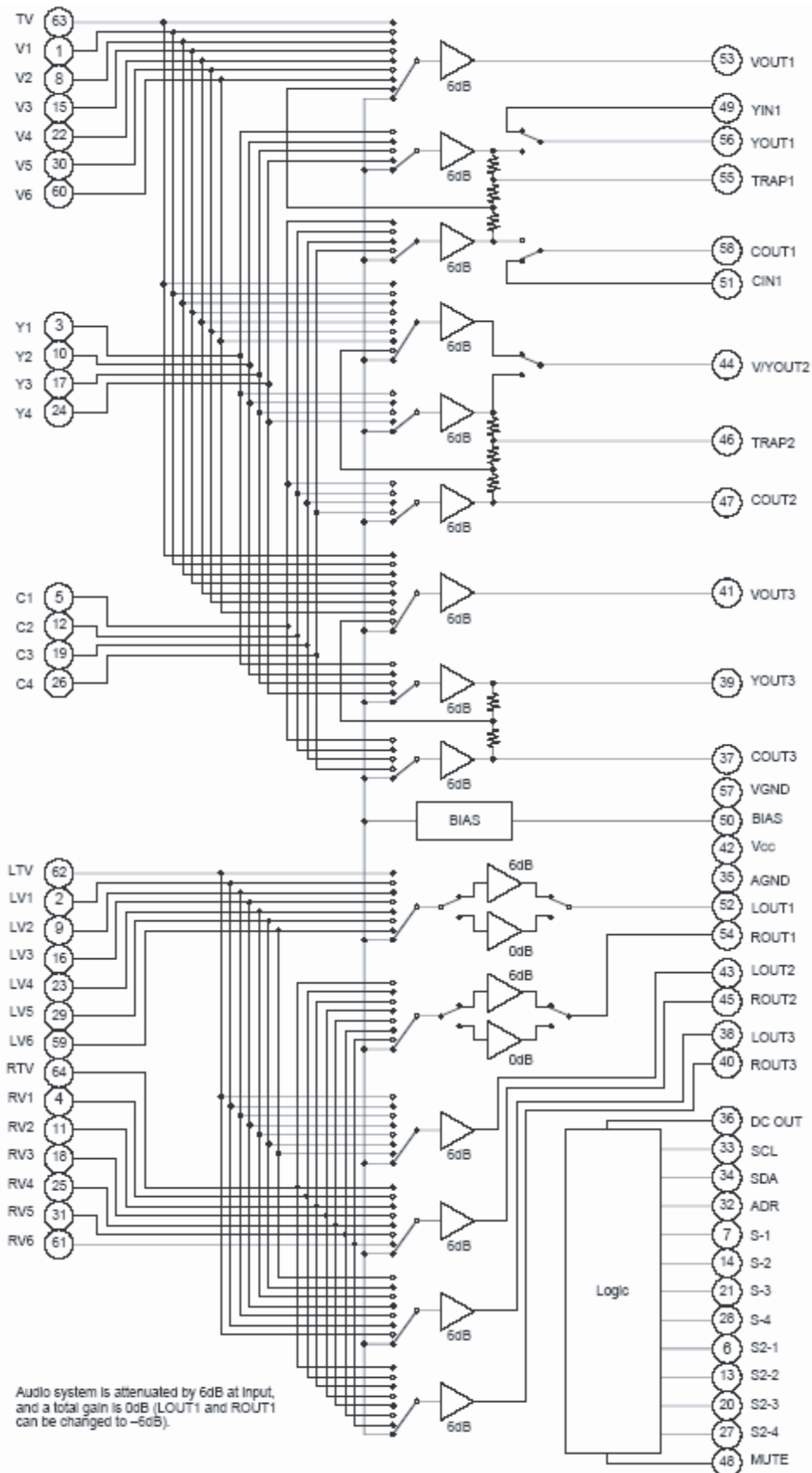
B

C

D

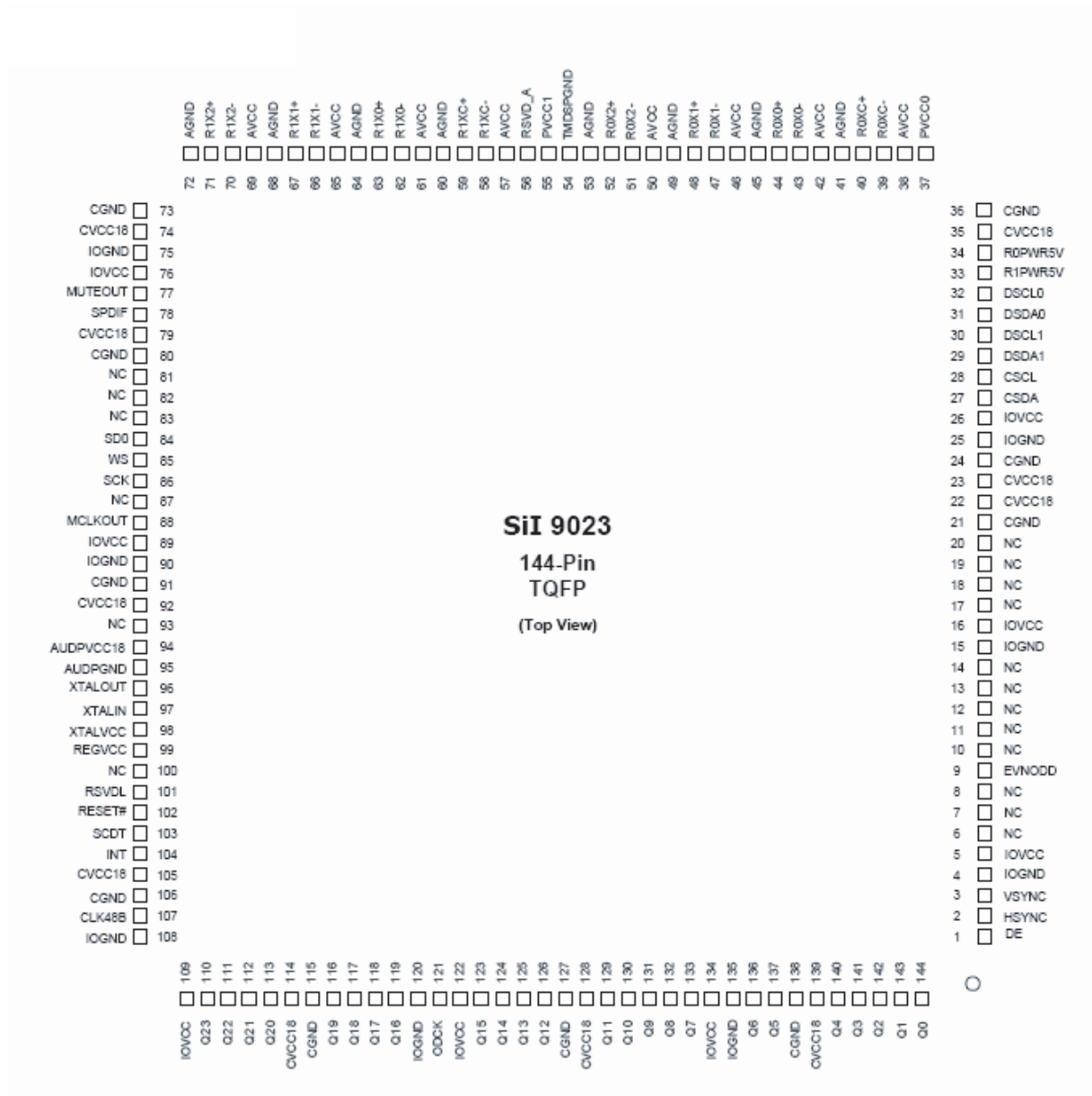
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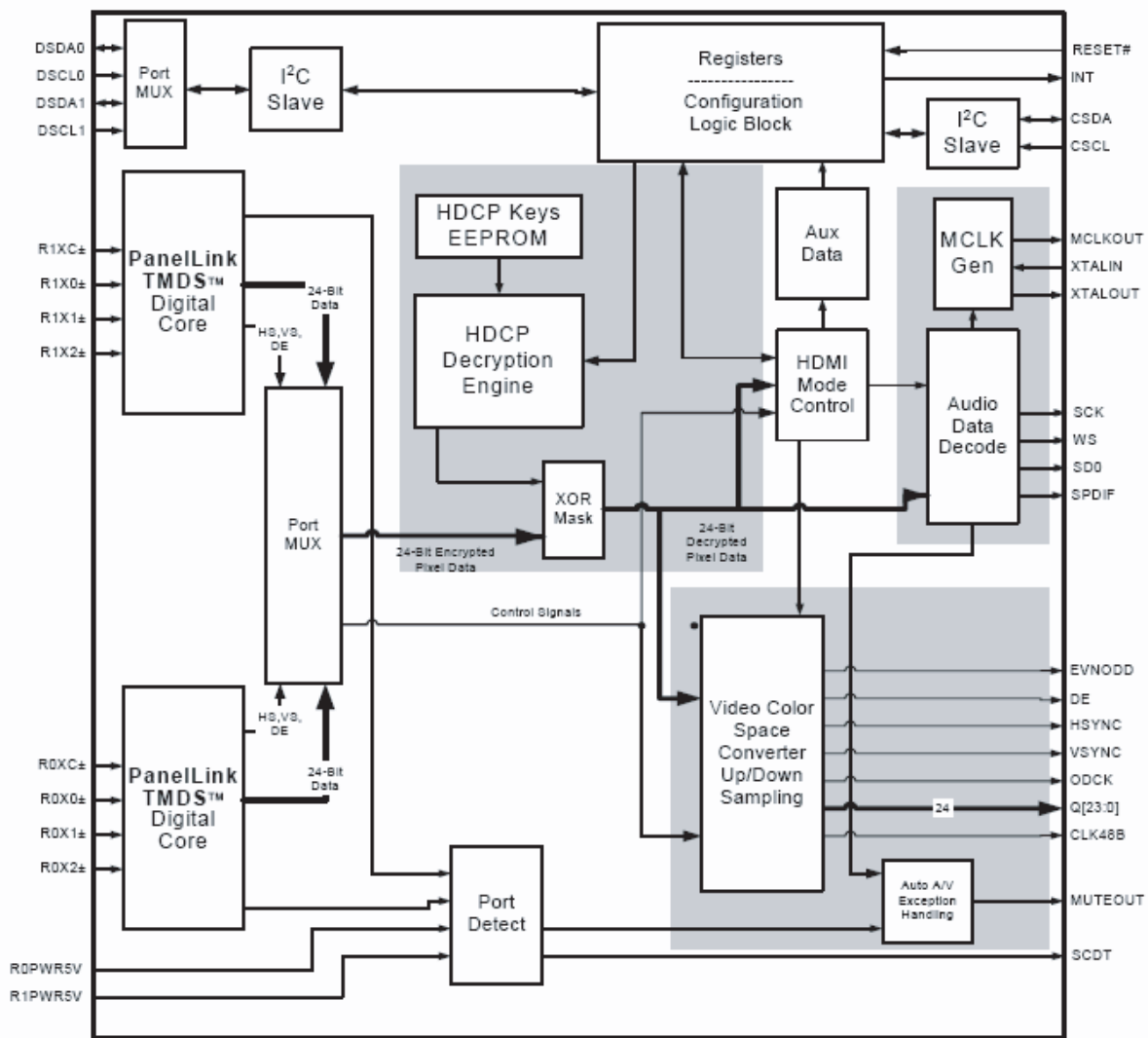


■ SII9023 (MAIN ASSY: U45)

● Pin Arrangement

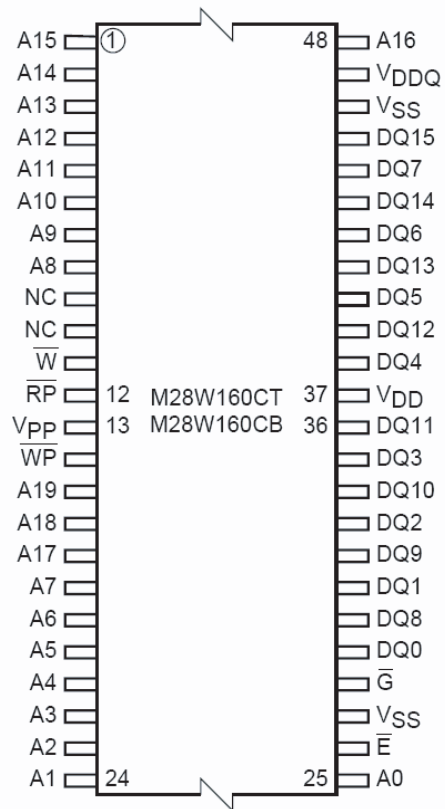


● Block Diagram

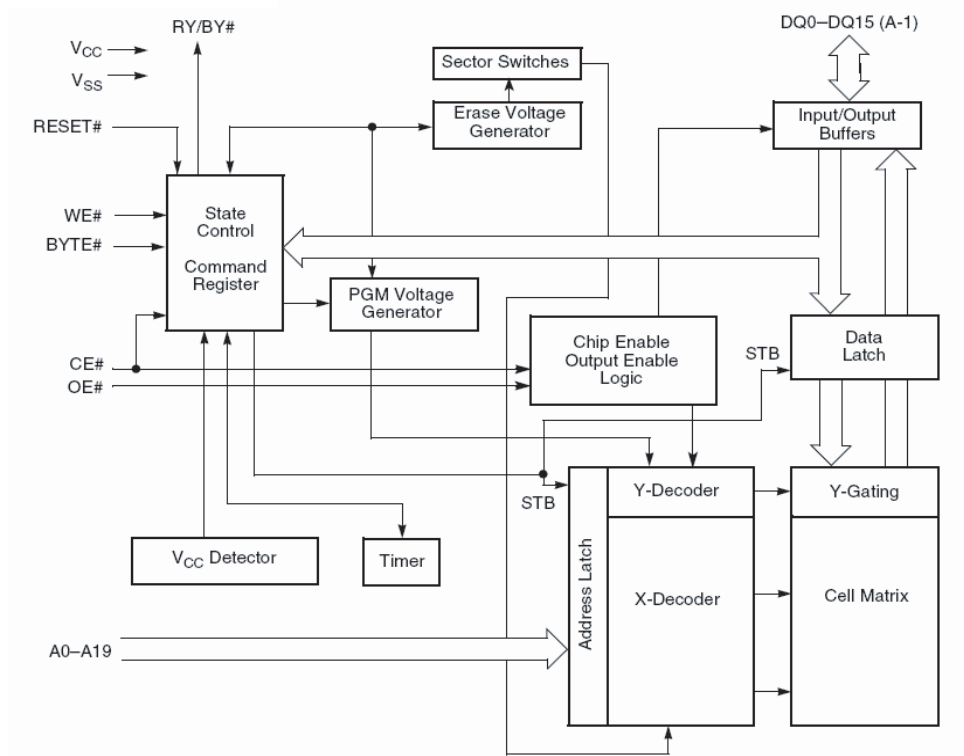


■ M28W160CT-70N6E (MAIN ASSY: U11)

● Pin Arrangement

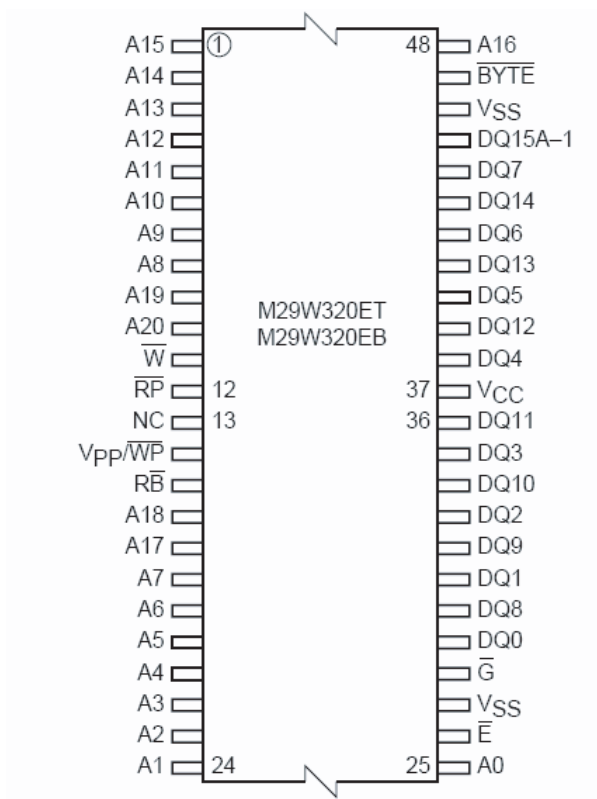


● Block Diagram

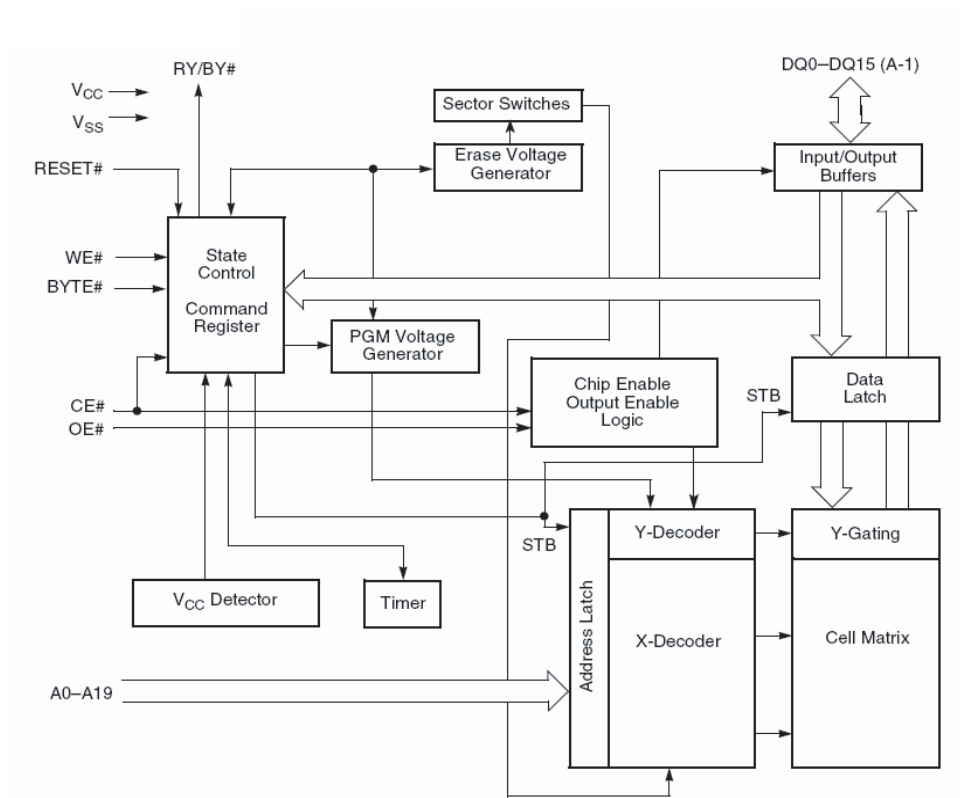


■ M29W320ET-70N6E (MAIN ASSY: U30)

● Pin Arrangement

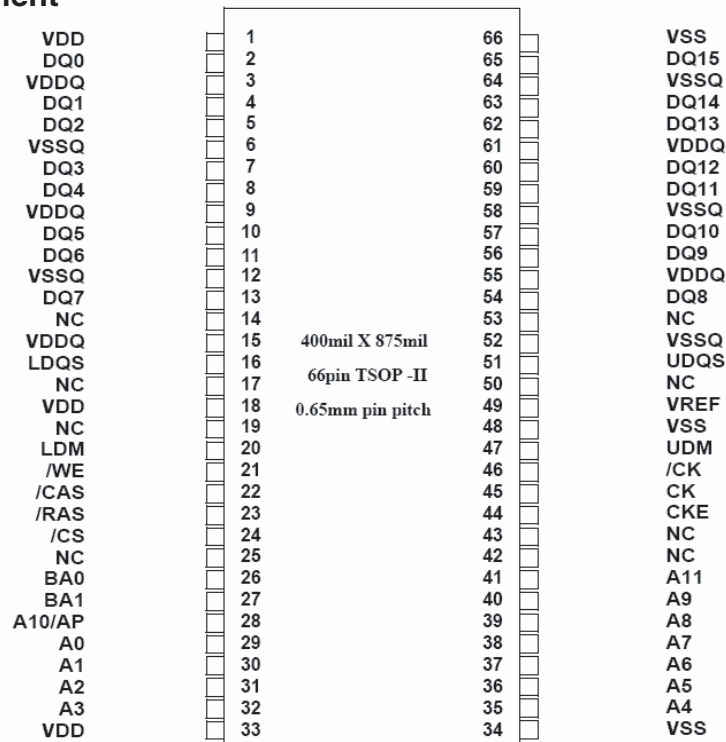


● Block Diagram



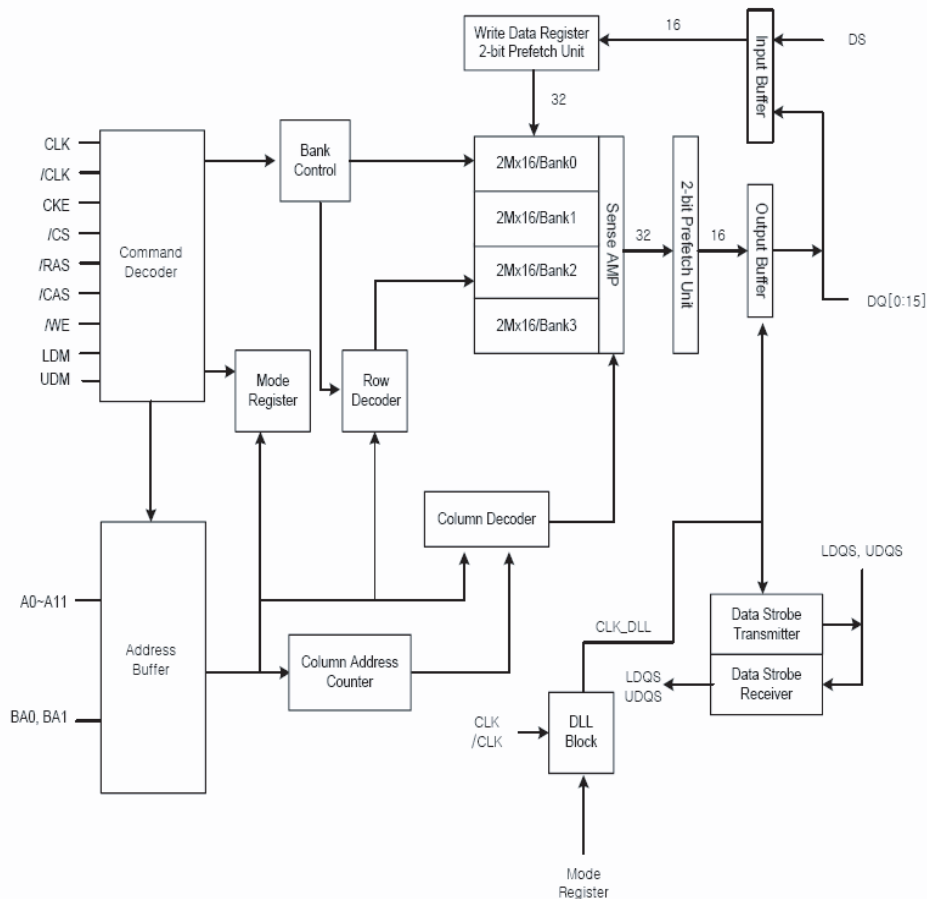
HY5DU281622ETP (MAIN ASSY: U9, U10)

Pin Arrangement



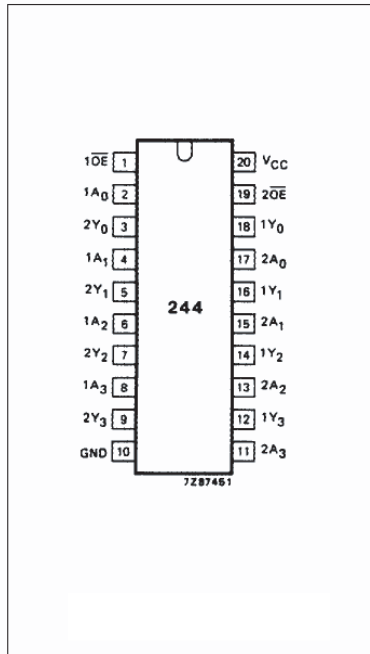
Block Diagram

4Banks x 2Mbit x 16 I/O Double Data Rate Synchronous DRAM

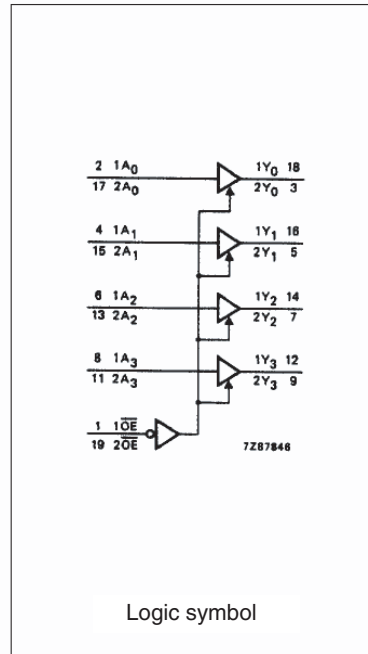


74HCT244 (MAIN ASSY: U16)

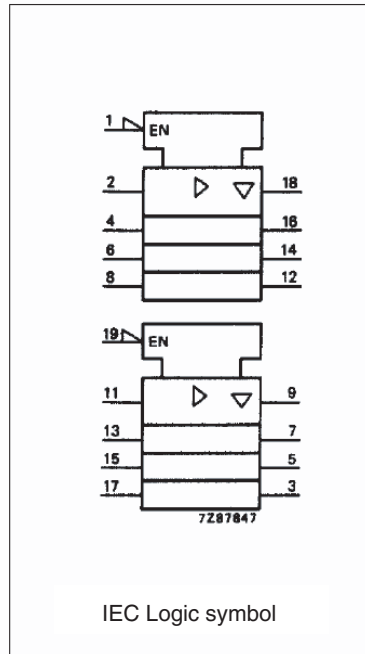
Pin Arrangement



Block Diagram



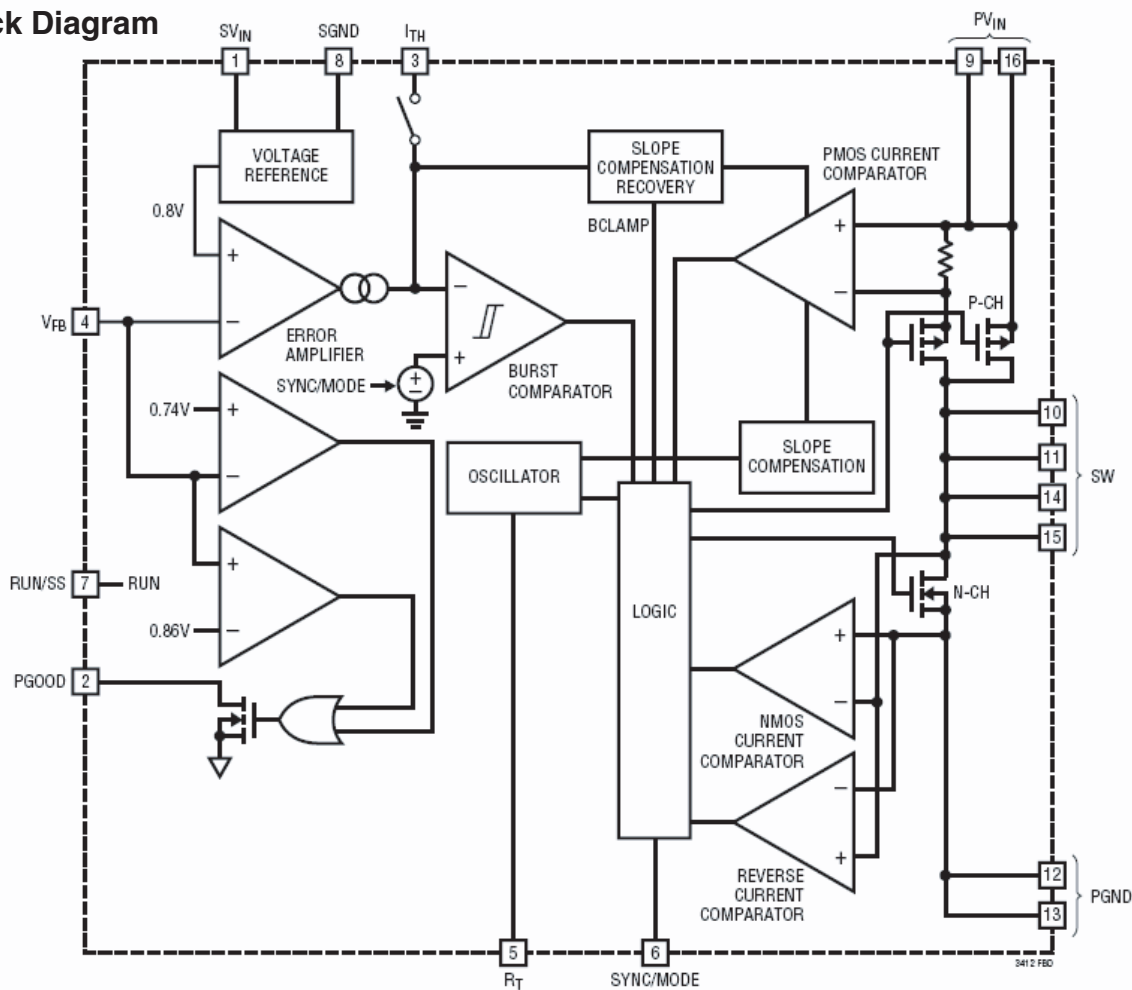
Logic symbol



IEC Logic symbol

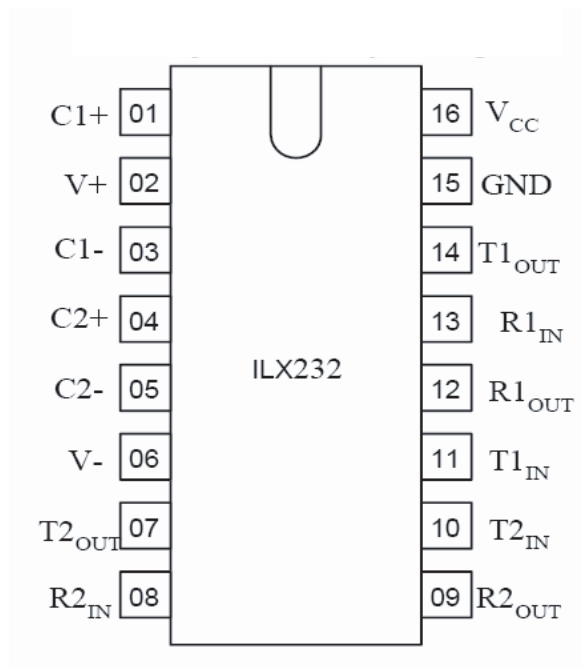
LTC3412EFE (MAIN ASSY: U52,U53)

Block Diagram

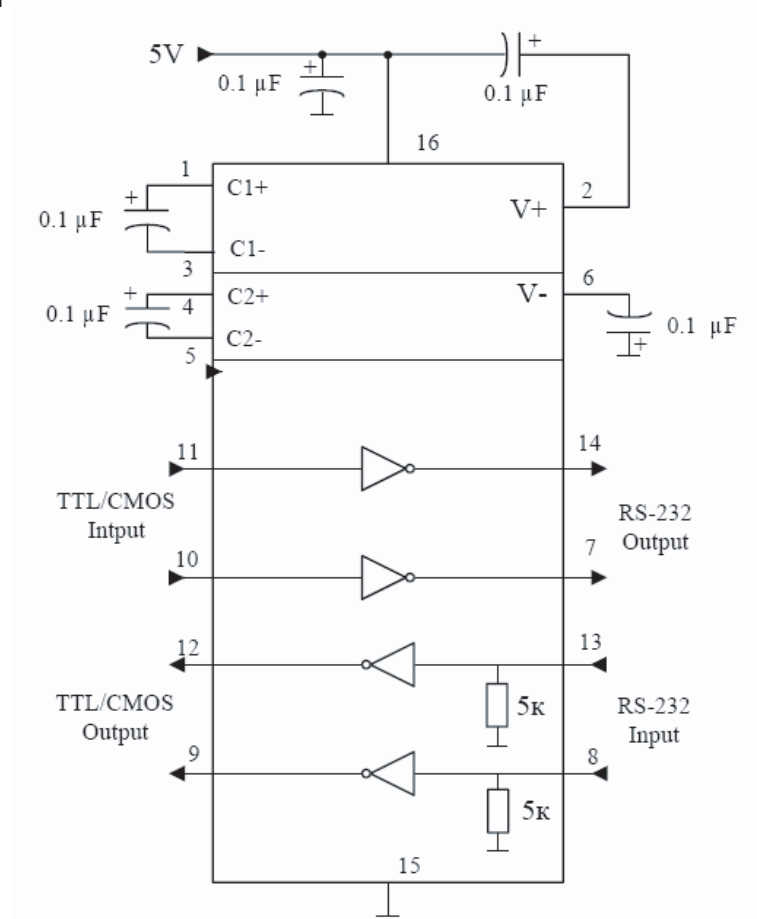


■ ILX232 (MAIN ASSY: U15)

● Pin Arrangement

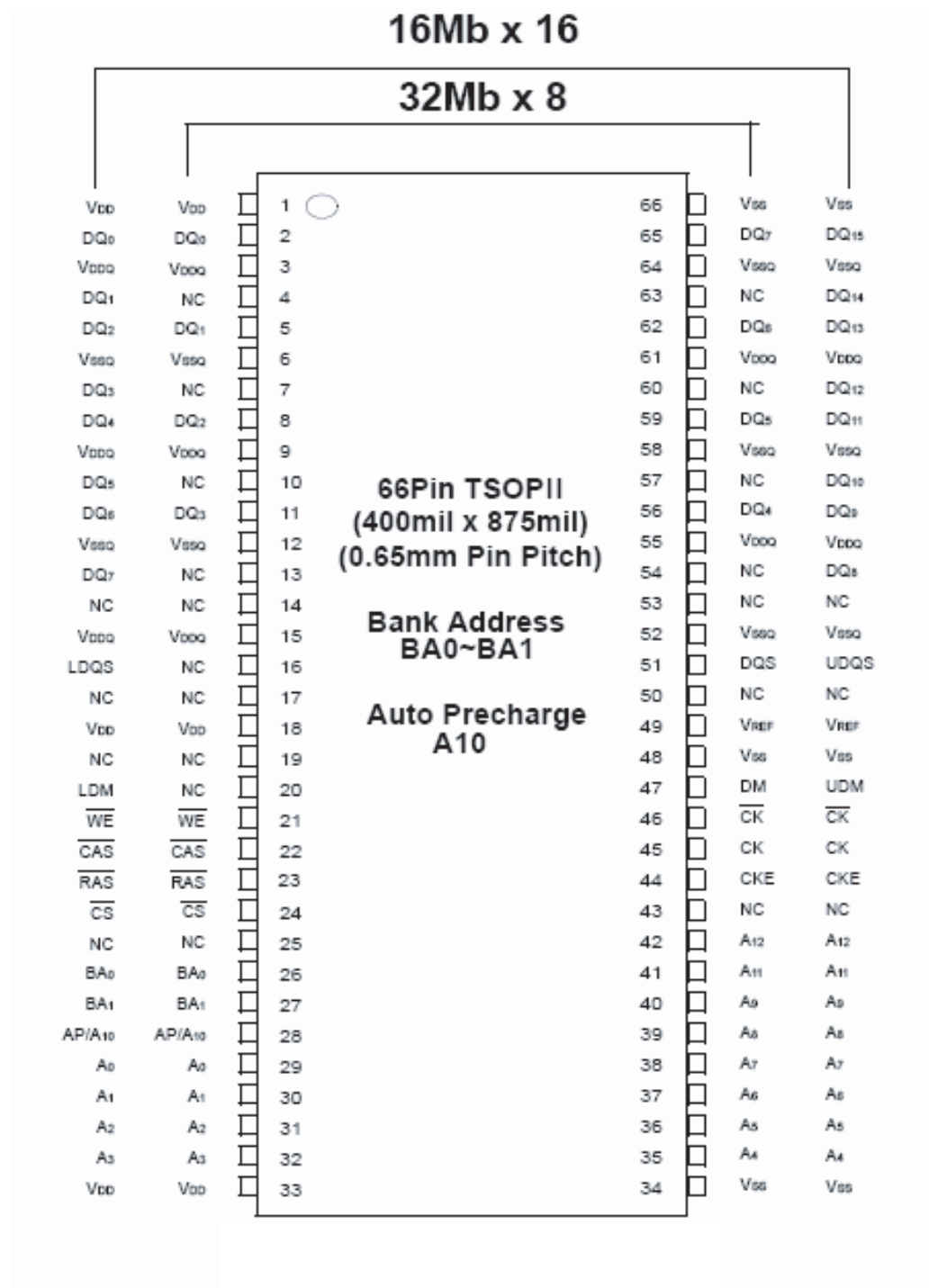


● Block Diagram

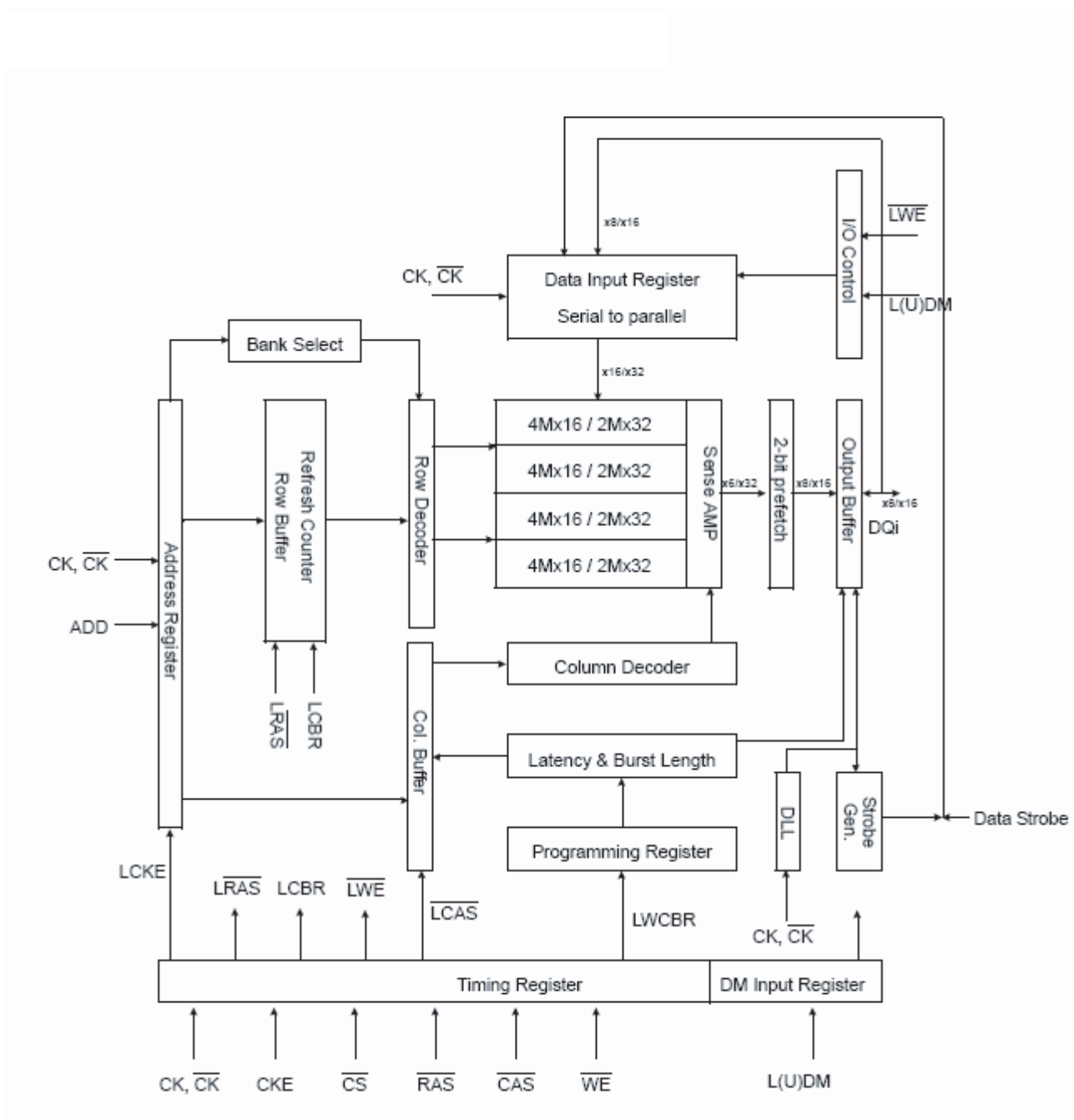


K4H561638H-UCB3 (MAIN ASSY: U3, U4)

● Pin Arrangement

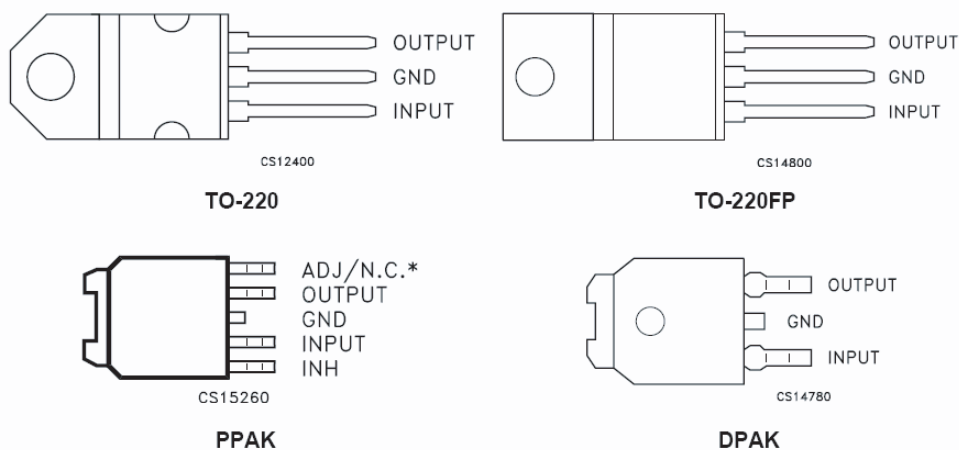


● Block Diagram



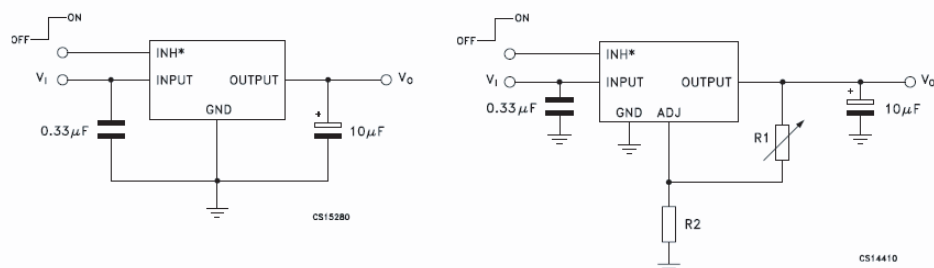
LD29150PT/P-PAK (MAIN ASSY: U47- U49)

Pin Arrangement

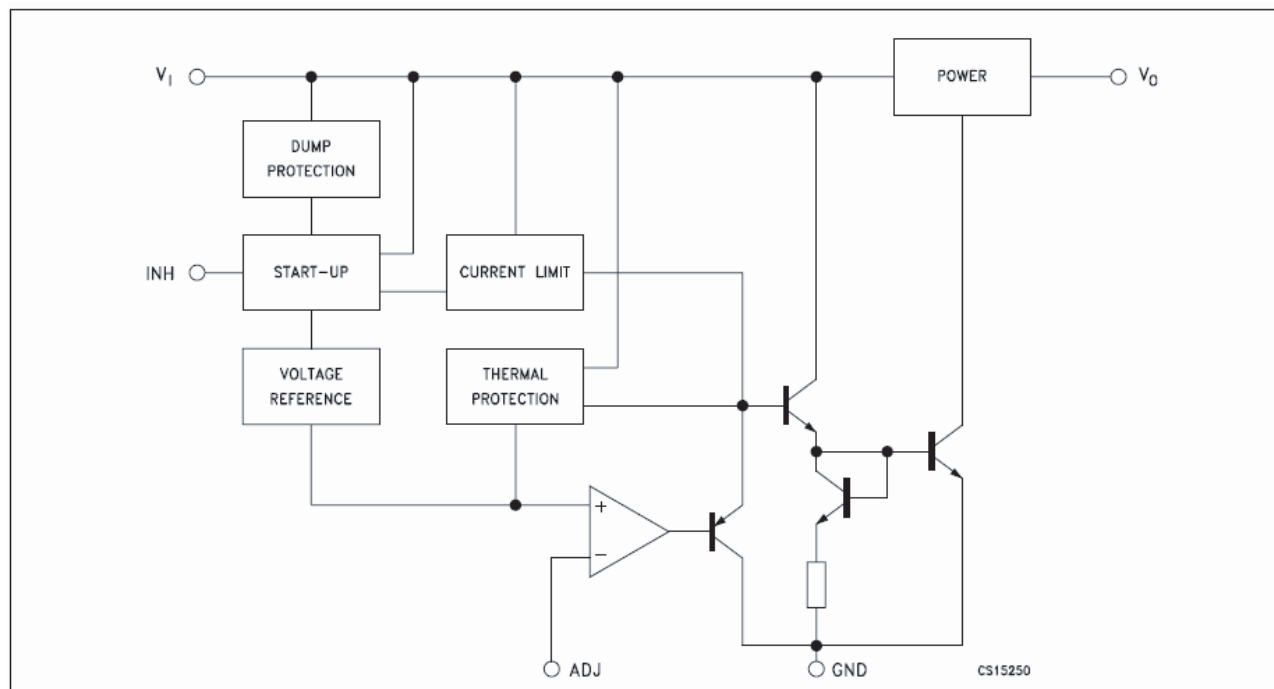


Not connected for fixed version.

Application Circuit

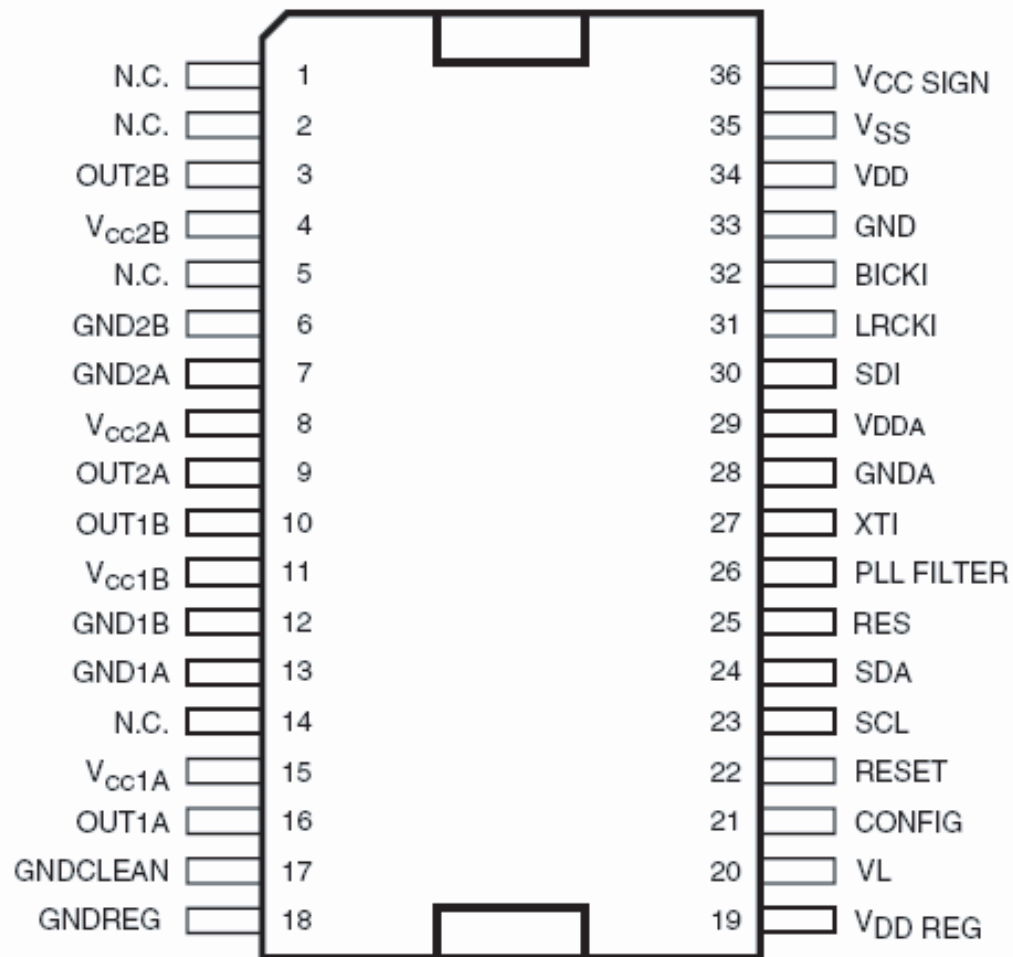


Block Diagram

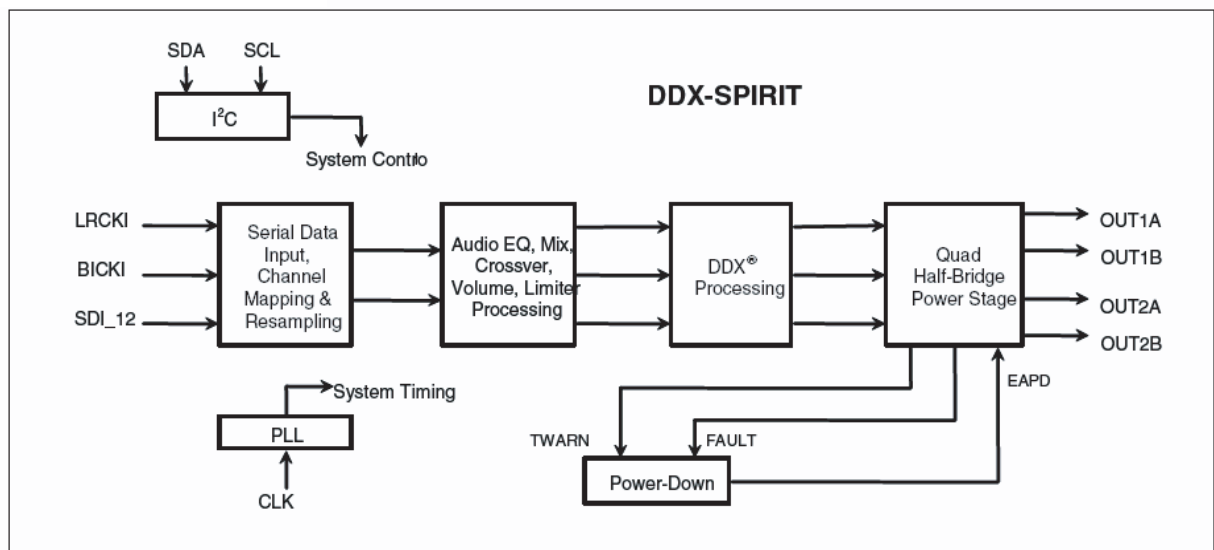


■ STA323W13TR (MAIN ASSY: U12)

● Pin Arrangement

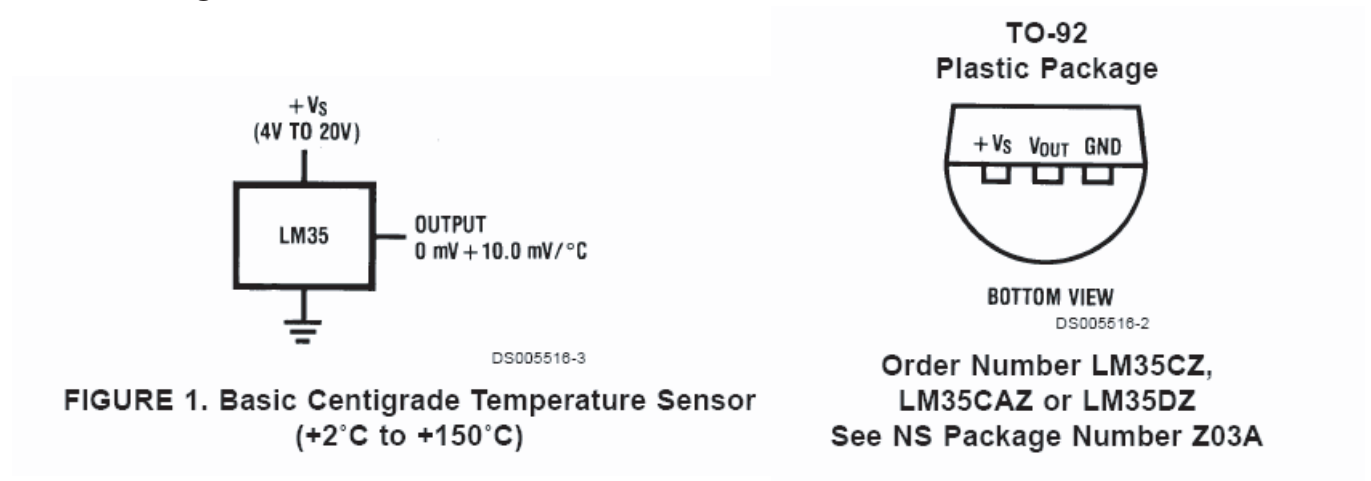


● Block Diagram



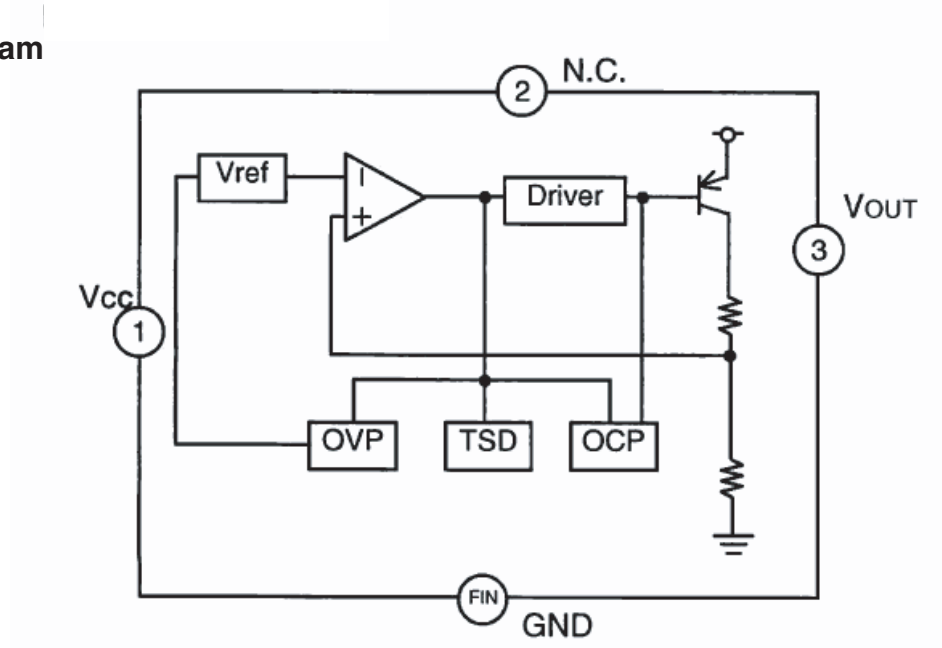
■ LM35CZ (SUB THERMINAL SENSOR ASSY: U44)

● Pin Arrangement



■ BA05CCOFP (MAIN ASSY: U22, U23, U27)

● Block Diagram

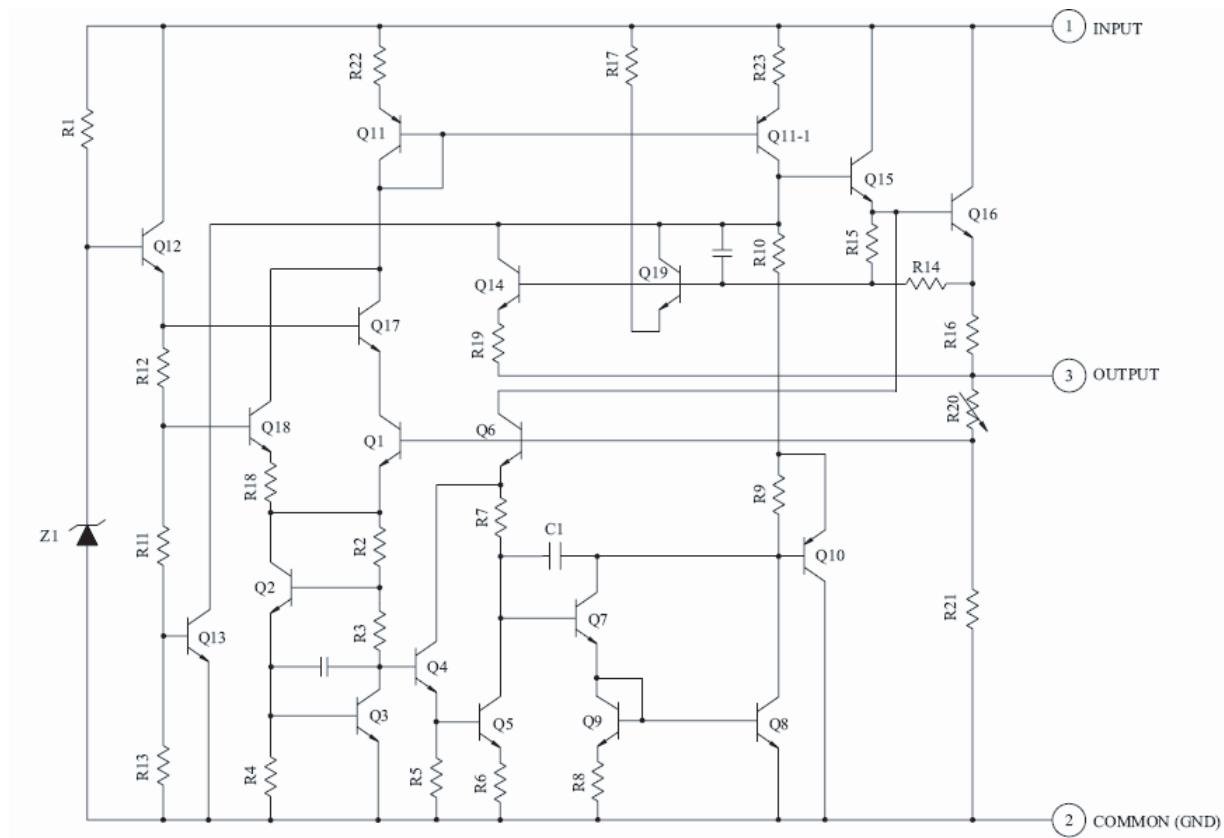


● Pin Function

Pin Number	Pin Name
1	Vcc
2	N.C.
3	VOUT
FIN	GND

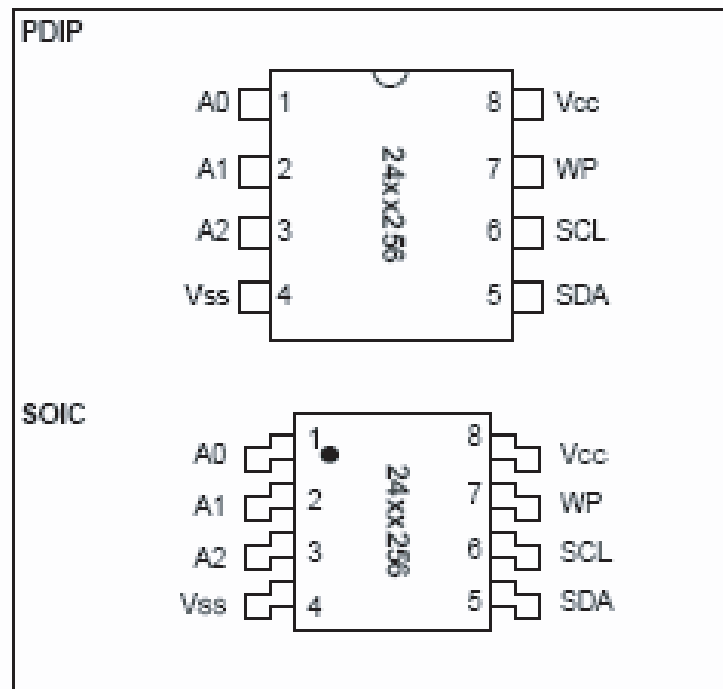
■ KIA7809AF (MAIN ASSY: U26)

● Block Diagram

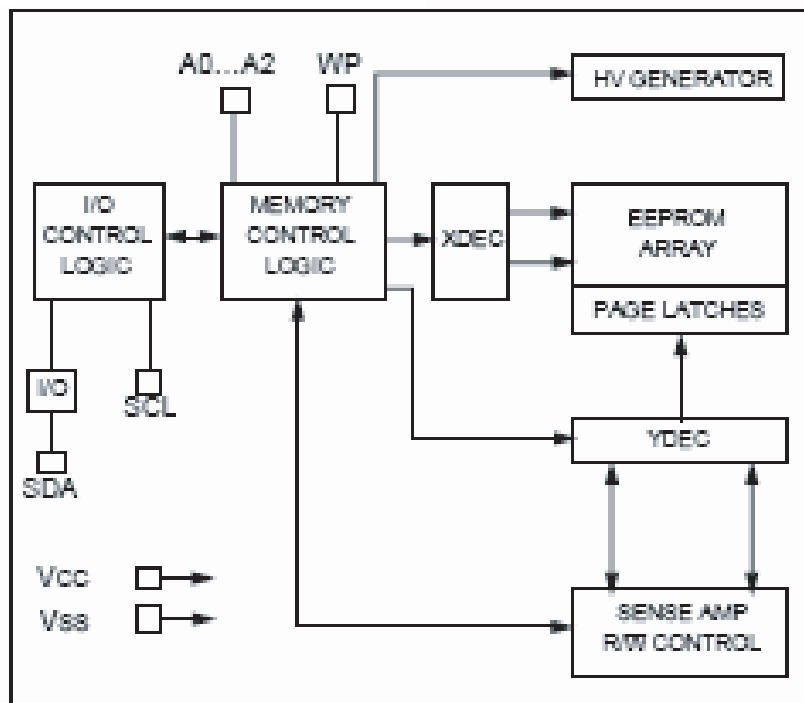


■ 24LC256 (MAIN ASSY: U7)

● Pin Arrangement

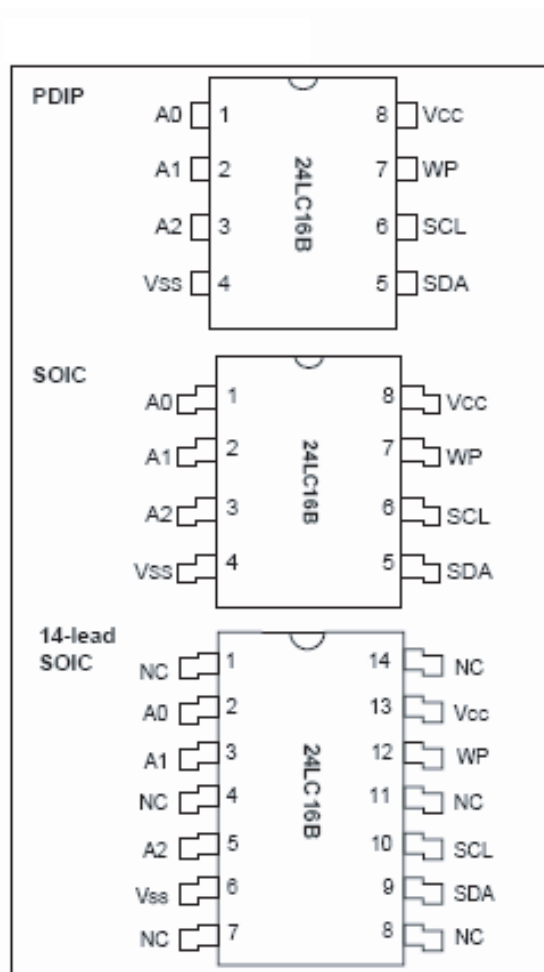


● Block Diagram

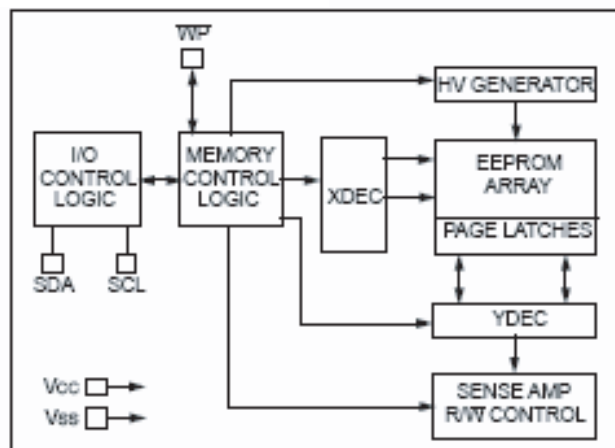


24LC16B (MAIN ASSY: U18, U44)

Pin Arrangement

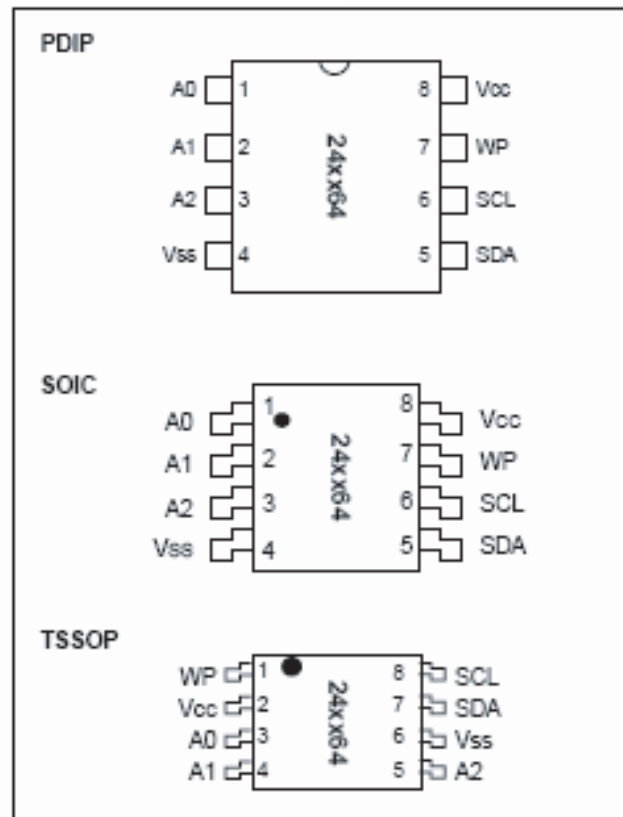


Block Diagram

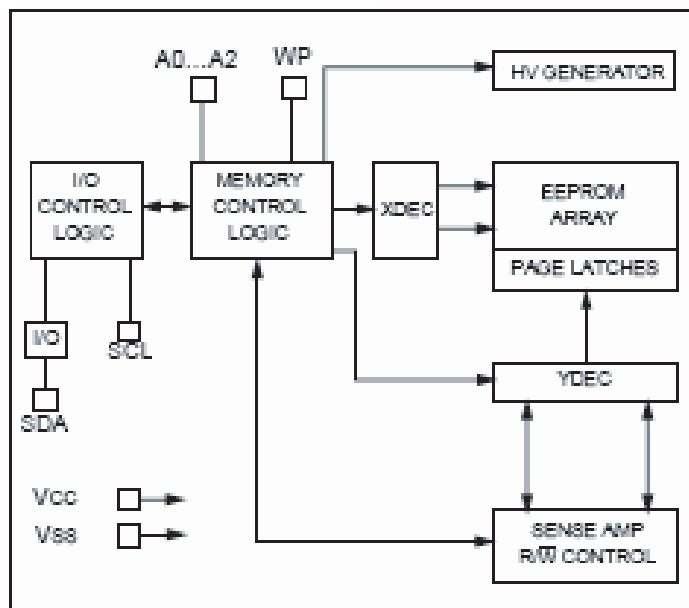


■ 24LC64T-I/SN (MAIN ASSY: U31)

● Pin Arrangement



● Block Diagram



■ 74LVC157AD (MAIN ASSY: U46)

● Pin Arrangement

